FINAL
PHASE II SUBSURFACE INVESTIGATION
DOUGLAS AIRCRAFT COMPANY
C-6 FACILITY, PARCEL A
TORRANCE, CALIFORNIA

FOR
McDONNELL DOUGLAS REALTY COMPANY
5 JUNE 1996

K/J 954019.01

VOLUME I OF III

**Kennedy/Jenks Consultants** 

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#### 1.0 EXECUTIVE SUMMARY

McDonnell Douglas Realty Company retained Kennedy/Jenks Consultants to perform a Phase II subsurface investigation of the northern section of the Douglas Aircraft Company C-6 Facility in Torrance, California. The investigation was confined to the area identified by McDonnell Douglas Realty Company as Parcel A. Specific areas for the investigation were identified in an earlier preliminary site assessment as potential areas of environmental interest.

Samples were collected from depths of up to 35 feet below ground surface from 56 borings using hollow-stem auger, hand auger, and direct push techniques. Upper interval samples from each boring were generally analyzed for Total Recoverable Petroleum Hydrocarbons or Total Petroleum Hydrocarbons as diesel, and volatile organic compounds by a mobile laboratory located onsite. Deeper interval samples were analyzed for the same parameters where upper interval samples had detectable concentrations of chemicals of interest. In general, samples were also analyzed for California Code of Regulations metals in an offsite laboratory and select samples were also tested for polychlorinated biphenyls.

Soils encountered during the investigation were predominantly silts with varying amounts of clay and sand, and with clay and sand occasionally interbedded. No groundwater water was encountered during the drilling of this field program.

The results of the Phase II investigation of Parcel A identified only a limited number of areas of environmental interest. One location in Building 37 was identified as impacted by petroleum hydrocarbons in the upper 10 feet. Four locations were identified as impacted by low concentrations of chlorinated volatile organic compounds to the total tested depth of 25 feet bgs.

Sampling at one location in Building 37 indicated a limited area impacted by polychlorinated biphenyls.

#### 2.0 INTRODUCTION

This report summarizes the results of a Phase II subsurface investigation of a section, Parcel A, of the Douglas Aircraft Company (DAC) C-6 facility (C-6 facility) located at 19503 South Normandie Avenue in Torrance, California. The investigation was conducted by Kennedy/Jenks Consultants (Kennedy/Jenks) on behalf of McDonnell Douglas Realty Company (MDRC) in March and April 1996. The location of the C-6 facility is shown in Figure 1. A layout of the C-6 facility and an outline of Parcel A is shown in Figure 2.

## 2.1 Purpose and Objective

MDRC is considering development of Parcel A in the northern section of the C-6 facility. For the purpose of evaluating areas of potential environmental interest related to the development, environmental investigation work was conducted. In December 1995, MDRC retained Kennedy/Jenks to conduct a Phase I Environmental Site Assessment (PESA) of this parcel. During the performance of the PESA, Kennedy/Jenks identified 17 areas of potential environmental interest related to past or present operations within Parcel A.

The objective of this Phase II investigation was to evaluate the possibility that releases of hazardous substances could have impacted surrounding soils at the areas of potential environmental interest. The Phase II Investigation included subsurface soil sampling, monitoring for soil vapors during sampling, logging of soil types, and laboratory analysis for chemicals of interest anticipated from the PESA.

#### 3.0 SITE DESCRIPTION

The following sections describe Parcel A, the C-6 facility history, and the regional geologic setting.

#### 3.1 Parcel A Description

Parcel A is comprised of the northern portion of the C-6 facility located at 19503 South Normandie Avenue in Torrance, California (Figure 2). The topography of the facility is essentially flat with an elevation of approximately 50 feet above mean sea level (msl). Structures included in Parcel A include Buildings 29, 33, 34, 36, 37, 43, 57, 61, and 67, the northernmost tip of Building 1, the northern section of the employee parking lot, and the gravel yard to the east of Building 37 (Figure 2). Current operations at Parcel A consist of storage and warehousing.

Parcel A is bordered by West 190th Street on the north, South Normandie Avenue on the east, the remainder of the C-6 facility on the south, and a former metals plant (Industrial Light Metals) to the west. A railroad easement is located between the fence on the east side of Parcel A and Normandie Avenue. The surrounding properties to the north and the east consist mainly of light industrial and manufacturing facilities and office buildings. The Industrial Light Metals plant is presently being demolished. Activities at the C-6 facility to the south consist of storage and warehousing.

Manufacturing operations on Parcel A have been inactive for approximately the last 4 years. Most of the manufacturing equipment has been removed from the C-6 facility.

#### 3.2 Parcel A History

Aerial photos indicate that the C-6 facility was farmland prior to the 1940s. The C-6 facility was first developed by the Defense Plant Corporation (DPC) in 1941 as part of an aluminum reduction plant. The plant was operated by the Aluminum Company of America until late 1944

(CDM, 1991). In 1948, the property was acquired by the Columbia Steel Company (CSC). In March 1952, the US Navy purchased the property from CSC and established DAC as the contractor and operator of the facility for the manufacturing of aircraft and aircraft parts. DAC purchased the C-6 facility from the Navy in 1970 (CDM, 1991).

Structures on Parcel A were constructed and renovated at various times. Parts of Buildings 29, 33, 34, 36, 37, and 43 were part of the original construction of the DPC facility in 1941. Buildings 29 and 37 were renovated and enlarged to the north in the late 1960s and early 1970s. Buildings 57 and 61 were constructed in the early 1950s. Building 67 was constructed in the 1960s.

## 3.3 Regional Geology and Hydrogeology

Regionally, the C-6 facility is located in the Torrance Plain. Subsurface sediments in this region consists mainly of Recent alluvial deposits of gravel, sand, clay, and silt to a depth of approximately 175 feet below ground surface (bgs).

According to Department of Water Resources (DWR, 1961), the C-6 facility is located in the Torrance Plain and underlain by the Bellflower Aquitard in the upper approximately 100 feet bgs and by the Gage Aquifer, a water-bearing zone within the Lakewood Formation, from approximately 110 to 160 feet bgs. The Lakewood Formation extends to a depth of approximately 175 feet bgs. Beneath the Lakewood Formation is the San Pedro Formation, which extends to a depth of approximately 1,000 feet bgs. Water-bearing zones in the San Pedro Formation consist of the Lynwood Aquifer from approximately 300 to 390 feet bgs and the Silverado Aquifer from approximately 400 to 670 feet bgs (DWR, 1961). The Silverado Aquifer is considered a source of drinking water.

## 3.4 Local Geology and Hydrogeology

In the Phase I investigation, Kennedy/Jenks reviewed boring logs from demolition plans of Building 67 dated 2 February 1968 and a Phase II subsurface soils investigation performed in 1991 (CDM, 1991). The reports showed that the C-6 facility is underlain by fine-to medium-

grained sand, silty sand, and clayey sand. Borings from both investigations were advanced to a depth of approximately 30 feet below ground surface (bgs).

Subsurface soils encountered at locations drilled during this Phase II investigation, were similar in classification. Drilling to a maximum depth of 36 feet bgs penetrated an interbedded unit comprised of fine-grained sediments. The predominant soil type to this depth is silt. The silt units vary in thin intervals to clayey silt, silty clay, and sandy silt. Clay and silty sand were also found interbedded in the silt unit. Boring logs indicate that the subsurface sediments are sandier to the west (west of Building 37). Soils are generally a light brown to olive brown, with occasional gray silts noted. Though coloring was fairly consistent throughout the drilled areas, the silt varied from soft to hard.

Soils encountered were predominantly dry with occasional damp to moist intervals. No groundwater was encountered during the drilling of this field program. According to recent groundwater monitoring performed by Kennedy/Jenks for DAC (Kennedy/Jenks, 1996), local groundwater elevations range from approximately 15.5 feet to 16 feet below msl (approximately 65 feet bgs). Recent and historical data suggest that the groundwater flow direction is to the southeast.

#### 4.0 SAMPLING AND ANALYTICAL METHODS

To accomplish the Phase II objectives and document proper protocol for the work, a summary workplan was prepared and reviewed with field staff prior to initiating field work. Following the workplan, drilling and sampling methods were conducted in accordance with Kennedy/Jenks Standard Operating Guides. The Guides incorporate industry professional standards for routine sampling, and are designed to meet general regulatory agency requirements and result in litigation quality work. A site health and safety plan was also prepared and reviewed with field staff prior to conducting field activities. Field safety meetings were conducted with Kennedy/Jenks and subcontract staff at the beginning of each day to review physical and chemical hazards, and emergency procedures related to the work.

The field work was conducted in the period from 25 March through 8 April 1996. Soil sampling locations are illustrated in Figures 3 through 7. The specific sampling techniques and sample analytical program are detailed in Table 1. Analytical work was conducted by California certified laboratories using standard EPA test methods and appropriate state-required modifications. Two mobile laboratories were employed; one for petroleum hydrocarbon analysis and one for volatile organic compound (VOC) analysis, and a stationary laboratory was contracted for metals and polychlorinated biphenyl (PCB) analysis.

# 4.1 Drilling and Sampling Methods

Field activities were initiated with selection of sampling locations, geophysical screening for certain underground obstructions, and coring of concrete paving to access subsurface soils. Several planned drilling locations inside Building 37 were moved due to the difficulty in penetrating the concrete bottoms of backfilled machine pits (Pits J, K, M, N, and O). At these locations, remaining open machine-pit areas were filled and previously filled areas were smoothed using a backhoe to allow access by the drill rig. Borings were then advanced adjacent to the apparent former sump locations, based on a comparison to shapes of open machine pits and visible ladder apparatus. Additional concrete coring was conducted during the drilling program at locations where drill bit penetration was refused by heavy concrete reinforcement.

Sampling was accomplished using direct-push, hollow-stem auger, and hand-auger methods. The push technology uses a truck-mounted or portable hydraulically driven sampler or core barrel that allows penetration and standard sampling without the generation of drill cuttings. The sampler for the push tool was fitted with 1.5-inch diameter, 6-inch long brass sleeves. The method was used at locations where access allowed. No residuals were generated using this equipment. The 2-inch diameter holes were backfilled with hydrated bentonite chips. A total of 30 borings placed throughout Parcel A were sampled using this equipment (Table 1).

A mobile B-53 hollow-stem auger rig was used to drill and sample at the backfilled machine pits in Building 37. The rig was equipped with a concrete bit to drill through concrete at the bottom of each pit. Due to the heavy reinforcement of the pit bottoms however, penetration was refused and borings were advanced adjacent to the apparent sump locations outside of the pits, as previously described. Sampling was conducted using a standard split-spoon sampler fitted with 2-inch diameter, 6-inch long brass sleeves. Cuttings from these 6.75-inch diameter borings were drummed and the holes were backfilled to grade with cement-bentonite grout. A total of 11 borings were drilled and sampled with this hollow-stem auger rig, all in Building 37 (Table 1).

A limited access hollow-stem auger rig was used to drill and sample in several open machinepits in Building 37. This small rig was lowered into each accessible pit using a forklift.

Concrete bottoms of up to 5-feet thick were cored by a contractor prior to drilling at these
locations. Sampling was conducted using a standard split-spoon sampler fitted with 2-inch
diameter, 6-inch long brass sleeves. Cuttings from these 6-inch diameter borings were
drummed and the holes were filled to grade with cement-bentonite grout. A total of 11 borings
were advanced using the limited-access rig, all in Building 37 (Table 1).

Where access did not allow use of mechanical drilling equipment, test holes were advanced with a hand auger. Samples were collected with a hand-operated drive sampler fitted with one 6-inch long brass sleeve. A total of three shallow holes were sampled using this equipment in two areas of Building 67. At a fourth location in Building 67 (Sample Site 7B), the hand auger

could not be advanced due to subsurface obstructions. The hand-auger holes were backfilled with bentonite chips.

At each of the deeper test locations, the soil types encountered were logged using the Unified Soil Classification System (USCS). Boring logs are included in Appendix A.

Drummed cuttings were labeled, inventoried, and stored at the C-6 facility for later disposal by DAC.

## 4.2 Sample Handling

Soil samples were collected in brass sleeves that were covered with Teflon<sup>TM</sup> sheets, capped, labeled, and bagged. For each sampling interval, three sleeves were collected for laboratory analysis, one for each of the two mobile laboratories on location and one for the offsite laboratory. Samples were identified with the boring number and depth using a predetermined nomenclature. For Building 37, where most of the drilling was conducted, an example identification code is:

3K-1-5

- 3K- for sample site 3 in machine-pit K-
- 1- at the north end of the pit
- 5 at the depth interval beginning at 5 feet bgs and extending to 6.5 feet bgs.

Samples were placed in ice-cooled insulated containers upon collection and transported to the onsite mobile laboratory at the completion of a boring or transferred to the offsite laboratory by courier at the end of each day. Sample custody was maintained by the field sampler or field supervisor until transfer to one of the laboratories. Sample custody is documented on standard chain-of-custody forms included in Appendix B.

## 4.3 Sample Analytical Program

Analytical methods were selected for potential chemicals of interests based on the PESA findings. Analytical methods selected and the number of samples analyzed for each boring are detailed in Table 1 and summarized below.

- Samples collected at locations with potential volatile organic compound (VOC) releases were analyzed in an onsite mobile laboratory by EPA Method 8010 and EPA Method 8020.
- Samples collected at locations with potential petroleum hydrocarbon releases were analyzed in an onsite mobile laboratory by EPA Method 418.1 for Total Recoverable Petroleum Hydrocarbons (TRPH).
- Samples collected at a location with potential diesel fuel releases were analyzed in an onsite mobile laboratory by modified EPA Method 8015 for Total Petroleum Hydrocarbons as diesel (TPHd).
- Samples collected at locations with potential heavy metals releases were analyzed in an offsite laboratory by EPA Method 6010 for California Code of Regulations-listed metals (CCR metals).
- Samples collected at locations with potential polychlorinated biphenyl (PCB) releases
   were analyzed in an offsite laboratory by EPA Method 8080 for PCBs.
- Samples collected at a location with potential cyanide releases were analyzed in an offsite laboratory by EPA Method 335.3 for total cyanides.

One onsite mobile laboratory operated by Transglobal Environmental Geochemistry (TEG) was maintained for sample analysis by EPA Method 418.1 for TRPH. TEG also maintained a second onsite mobile laboratory for sample analysis by EPA Method 8010/8020 for VOCs and

modified EPA Method 8015 for TPHd. Separate onsite laboratories were required because of potential interferences caused by analytical reagents used for EPA Method 418.1.

All samples shipped off-site for analysis were transported to Quanterra Environmental Services in Santa Ana, California. Quanterra performed the following analyses on samples, as required:

- EPA Method 335.3 for total cyanides;
- EPA Method 6010 for CCR metals; and
- EPA Method 8080 for PCBs.

## 5.0 SAMPLE LOCATIONS AND INVESTIGATIVE FINDINGS

The following sections describe the 17 individual areas of environmental interest identified during the PESA, and the investigative and analytical methods performed to evaluate each area. At most sample sites, borings were advanced to 25 feet bgs, and soil samples were collected on five-foot intervals. The first two samples collected were analyzed by selected laboratory methods based on the chemicals of potential interest. Subsequent laboratory analysis was performed on the sample collected at the next lower interval if chemicals of interest were detected.

Boring locations and sample sites are indicated on Figures 3 through 7. The distribution of detected concentrations of chemicals of interest are also shown on these figures. Table 2 presents a summary of detected organic chemicals of potential interest for the investigation. The table shows all chemicals detected in one or more samples, and the results of all tested samples from each boring where any chemical detections were reported. Complete analytical data are presented in the laboratory reports in Appendix C. Table C.1 at the beginning of Appendix C provides a table of contents for laboratory reports by specific sample location and test method. Table 3 presents the range of CCR metals detected in the Parcel A investigation, published common ranges of these metals in surface soils of the Western United States, and CCR Title 22 Soluble and Total Threshold Limit Concentration values.

# 5.1 Sample Site Number 1 - Former Clarifiers in Building 34

During the performance of the PESA, DAC personnel stated that a concrete pad on the north side of Building 34 was the former location of clarifiers. The area was sampled to evaluate the potential for a release of hazardous materials from the clarifiers to have impacted surrounding soils.

Samples were collected on 5-foot intervals from one boring advanced to 25 feet bgs by the direct-push sampling system (Figure 5). The samples collected from 5 and 10 feet bgs were

analyzed for VOCs by EPA Method 8010/8020, for TRPH by EPA Method 418.1, and for CCR metals by EPA Method 6010.

Laboratory results from analyzed samples collected at sample site number 1 are as follows:

- TRPH was not detected at or above the detection limit of 10 milligrams per kilogram (mg/Kg).
- VOCs were not detected at or above the detection limit of 5 micrograms per kilogram (Tg/Kg).
- CCR metal concentrations were within expected ranges and below regulatory limits.

# 5.2 Sample Site Number 2 - Clarifiers on the east side of Building 37

Two clarifiers were observed on the east side of Building 37 during the PESA. Sampling was conducted to evaluate the potential for a release of hazardous materials to have impacted surrounding soils.

One boring was advanced adjacent to each of the clarifiers (Figure 4) to 25 feet bgs by the direct-push sampling system. Samples were collected on 5-foot intervals. The samples collected from 5 and 10 feet bgs were analyzed for TRPH by EPA Method 418.1, for CCR metals by EPA Method 6010, and for VOCs by EPA Method 8010/8020. The samples collected from 15, 20, and 25 feet bgs at location 2A were analyzed for VOCs.

Laboratory results from seven analyzed samples collected at sample site number 2 are as follows:

TRPH was not detected at or above the detection limit of 10 mg/Kg.

- VOC analysis of the five samples from location 2A showed 1,1-Dichloroethane (1,1-DCA) in sample 2A-5 at a concentration of 7.5 μg/Kg. Trichloroethene was detected in samples 2A-10 (5.0 μg/Kg), 2A-15 (8.1 μg/Kg), and 2A-25 (5.4 μg/Kg).
   VOCs were not detected in the two samples from location 2B at or above the detection limit of 5 μg/Kg.
- CCR metal concentrations were within expected ranges and below regulatory limits.

## 5.3 Sample Site Number 3 - Machine Pits in Building 37

Fifteen machine pits in Building 37 were identified in the PESA as potential environmental interests due to large quantities of machine and hydraulic oils that were continuously stored in sumps within the pits during manufacturing operations. For the purposes of this environmental investigation, each pit was labeled with a letter and referenced by that letter during soil sampling activities. The locations of the pits and boring locations are illustrated in Figure 4.

Because the machine pits were in varying conditions and sizes, several different methods were used to sample soils from beneath each pit. Select samples from the machine pit areas were analyzed for VOCs by EPA Method 8010/8020, TRPH by EPA Method 418.1, CCR metals by EPA Method 6010, and PCBs by EPA Method 8080.

The following paragraphs detail the sampling procedures for each of the different pit conditions.

## Machine Pits A, D, F, I, and L

Machine pits A, D, F, I, and L had all machinery and equipment removed from them. Pits F, I, and L measure approximately 120 feet long, 30 feet wide, and 6 feet deep. Pits A and D are approximately 40 feet long, 30 feet wide, and 6 feet deep. Sample locations were selected that would avoid embedded structures within the concrete slab (as indicated on historical

drawings provided by DAC) while attempting to stay as close to collection sumps and expansion joints as possible.

One boring was advanced in pit D. Two borings were advanced in pits A, I, and L. Three borings were drilled in pit F. A concrete contractor was retained to core the concrete floor in the bottom of each pit. Concrete floor thickness ranged from two to five feet. A hollow-stem auger rig was then lowered with a forklift into the pits to perform soil sampling. Samples were collected on 5-foot intervals to 25 feet below the bottom of the concrete slab.

One of the collection sumps in pit D was adjacent to the aisleway, allowing use of the directpush sampling system at this location.

Laboratory results from analyzed samples collected from the first two intervals at pits A, D, F, I, and L are as follows:

- TRPH was not detected at or above the detection limit of 10 mg/Kg.
- VOCs detected in boring 3F-2 in samples collected from a drilled depth of 5.5 feet
   (11 feet bgs) included benzene (5.0 μg/Kg), ethylbenzene (58.0 μg/Kg), toluene
   (18.6 μg/Kg), and xylenes (15.0 μg/Kg). VOCs were not detected in the other
   analyzed samples above the detection limits of 5 μg/Kg.
- PCBs were not detected at or above the detection limit of 33  $\mu g/Kg$ .
- CCR metal concentrations were within expected ranges and below regulatory limits.

#### Machine Pits B and C.

Pits B and C are each approximately 60 feet long, 20 feet wide, and 6 feet deep. Remaining equipment and machinery in pits B and C prevented sampling through the bottom of these pits. Pits B and C each had two collection sumps. Because the collection sumps for these pits were

adjacent to the west wall of Building 37, access to surrounding soils was gained by angle-boring to a depth of 36 feet bgs from the outside of the building with the direct-push sampling system. However, electrical equipment located outside of the building prevented access to the sample location for the northern sump in pit B; samples were not collected in the vicinity of this sump. Two borings were sampled at pit C and one boring was sampled at pit B.

Laboratory results from analyzed samples collected from the first two intervals at pits B and C are as follows:

- TRPH was not detected at or above the detection limit of 10 mg/Kg.
- VOCs were not detected at or above the detection limits of 5  $\mu g/Kg$ .
- PCBs were not detected at or above the detection limits of 33 μg/Kg.
- CCR metal concentrations were within expected ranges and below regulatory limits.

## Machine Pit E

Pit E consists of a floor trench drainage system that flows to two collection sumps. Both of the sumps contained a liquid that appeared to be hydraulic oil or cutting lubricant. Two borings were sampled on 5-foot intervals to 25 feet bgs.

Laboratory results from analyzed samples collected from the first two intervals at pit E are as follows:

- TRPH was not detected at or above the detection limit of 10 mg/Kg.
- VOCs were not detected at or above the detection limits of 5 μg/Kg.
- PCBs were not detected at or above the detection limit of 33 μg/Kg.

CCR metal concentrations were within expected ranges and below regulatory limits.

## Machine Pits G and H

Machine Pits G and H were previously backfilled with soil and capped with concrete. The pits measure approximately 25 feet long and 25 feet wide. The depth of the pits is not known. One boring was advanced to 25 feet bgs with the direct-push sampling system at a location adjacent to each pit.

Laboratory results from analyzed samples collected from the first two intervals at pits G and H are as follows:

- TRPH was detected in the sample collected from boring 3G at 5 feet bgs at 5,700 mg/Kg. TRPH was not detected at or above the detection limit of 10 mg/Kg in the 10-foot sample from this boring or in the other analyzed samples.
- VOCs were not detected at or above the detection limits of 5 μg/Kg.
- PCBs were not detected at or above the detection limit of 33 μg/Kg.
- CCR metal concentrations were within expected ranges and below regulatory limits.

# Machine Pits J, K, M, N, and O

Machine pits J, K, M, N, and O were previously backfilled with soil. Pits K and J were also capped with a concrete slab. Each of these pits measured approximately 120 feet long and 30 feet wide. Based on an examination of several of the collection sumps that were not

completely backfilled, the collection sumps were believed to have been approximately 10 feet deep.

Two or three borings were advanced in each pit adjacent to the collection sumps. A concrete contractor was retained to core the concrete floor adjacent to each collection sump. Soil borings were advanced with the hollow-stem auger rig. Samples were collected on 5-foot intervals from 10 to 25 feet bgs. The samples from 10- and 15-foot intervals from all borings were analyzed. Samples were also analyzed from 20 and 25 feet bgs at boring 3K-2, 30-1, and 30-2.

Laboratory results from analyzed samples collected from pits J, K, M, N, and O are as follows:

- TRPH was detected in the 10-foot samples from borings 3J-2 (23 mg/Kg), 3N-1 (157 mg/Kg), and 3N-2 (134 mg/Kg), but not in the 15-foot samples from these borings. TRPH was not detected at or above the detection limit of 10 mg/Kg in the other analyzed samples.
- VOCs were detected in several of the analyzed samples in the form of 1,1dichloroethene (1,1-DCE) and TCE; no other VOCs were detected.
  - 1,1 DCE was detected in 3K-2-10 (8.0 μg/Kg) and 3O-1-10 (5.0 μg/Kg). The 10-, 15-, 20-, and 25-foot samples from 3O-2 contained 1,1-DCE in concentrations ranging from 20.7 μg/Kg (25 feet) to 76.6 μg/Kg (20 feet).
  - TCE was detected in the 10-, 15-, 20-, and 25-foot samples from 3K-2 in concentrations ranging from 8.4 μg/Kg (20 feet) to 97.0 μg/Kg (10 feet). The 10-, 20-, and 25-foot samples from 3O-1 contained TCE in concentrations ranging from 7.2 μg/Kg (10 feet) to 13.5 μg/Kg (20 feet). TCE was also detected in the 10-, 15-, 20-, and 25-foot samples from 3O-2 in concentrations ranging from 81 μg/Kg (15 feet) to 242 μg/Kg (20 feet).

- PCBs were detected in samples from boring 3J-2 at 10 feet bgs (9,800 μg/Kg), and 15 feet bgs (130 μg/Kg), and in boring 3O-2 at 10 feet bgs (36 μg/Kg). PCBs were not detected at or above the detection limit of 33 μg/Kg in the other analyzed samples. For sample 3M-2-10, PCBs were reported as not detected at or above the detection limit of 67 μg/Kg.
- CCR metal concentrations in the analyzed samples were within expected ranges and below regulatory limits.

## 5.4 Sample Site Number 4 -- Machine Shop in Building 37

During the PESA, a parts degreaser and collection sump were observed in a machine shop in the eastern section of Building 37. DAC records indicated that previous chemicals used at this location included the solvent 1,1,1-trichloroethane.

One boring was advanced with the limited access rig to 25 feet bgs at a location adjacent to the solvent tank sump (Figure 4). Samples were collected on 5-foot intervals. The samples collected at 5 and 10 feet bgs were analyzed for VOCs by EPA Method 8010/8020.

Laboratory results from analyzed samples collected at sample site number 4 are as follows:

VOCs were not detected at or above the detection limits of 5 μg/Kg.

# 5.5 Sample Site Number 5 -- Elevators in Building 61

Two hydraulic lift elevators in Building 61 were identified in the PESA as potential environmental interests due to associated underground hydraulic equipment.

One angle-boring was advanced beneath each lift with the direct push sample system to approximately 35 feet bgs (Figure 5). One sample was collected from each boring at a drilled depth of 35 feet. The samples were analyzed for TRPH by EPA Method 418.1.

Laboratory results from analyzed samples collected at sample site number 5 are as follows:

TRPH was not detected at or above the detection limit of 10 mg/Kg.

# 5.6 Sample Site Number 6 -- Former Sump at Building 61

Historical drawings reviewed during the PESA identified a former collection sump near the exterior northeast corner of Building 61. DAC facility records did not indicate when the sump was removed or the condition of the sump upon removal.

A metal fence presently crosses over the former location of the collection sump. One angle-boring was advanced by the direct-push sampling system from outside of the fence (Figure 5). Samples were collected on 5-foot intervals to 25 feet bgs. The samples collected at 5 and 10 feet bgs were analyzed for VOCs by EPA Method 8010/8020 and CCR metals by EPA Method 6010.

Laboratory results from analyzed samples collected at sample site number 6 are as follows:

- VOCs were not detected at or above the detection limits of 5 μg/Kg.
- CCR metal concentrations in the analyzed samples were within expected ranges and below regulatory limits.

## 5.7 Sample Site Number 7 -- Sumps in Building 67

A collection sump, a secondary containment area for a metal plating process line, and a containment pit for a parts degreaser were observed in a room in the central western portion of Building 67 during the PESA. Some of the equipment, including the process tanks and degreasing tank, are still in place.

Four locations were selected and cored for subsurface sampling. The portable direct-push sampling system advanced borings to 25 feet bgs on the east side of the process tanks (boring 7C) and adjacent to the collection sump (boring 7A) (Figure 6). Boring 7D was advanced to 35 feet bgs between the process tanks and the degreaser containment pit. Hand-auger boring 7B was attempted on the west side of the process tanks, but a utility line was encountered approximately 6 inches beneath the concrete slab, and the boring was abandoned.

Samples from each of the borings were collected on 5-foot intervals. The samples collected at 5 and 10 feet bgs from borings 7A and 7C, and at 10, 15, and 20 feet bgs from boring 7D were analyzed for VOCs by EPA Method 8010/8020 and for CCR metals by EPA Method 6010.

Laboratory results from analyzed samples collected at sample site number 7 are as follows:

- 1,1-DCE was detected in sample 7C-5 at 16 μg/Kg. Sample 7D-10 contained concentrations of 1,1-DCA (8.3 μg/Kg) and 1,1,2-trichloroethane (1,1,2-TCA) (19 μg/Kg).
   1,1,2-TCA was also detected in samples 7D-15 (7.9 μg/Kg) and 7D-20 (18 μg/Kg). Sample 7D-20 also contained 1,2-DCA (8.7 μg/Kg). VOCs were not detected at or above the detection limits of 5 μg/Kg in the other analyzed samples.
- CCR metal concentrations in the analyzed samples were within expected ranges
  and below regulatory limits. Hexavalent chromium, for which published data on
  natural concentrations in soil are not available, was detected in sample 7A-10 at a
  concentration of 1.0 mg/Kg, below the regulatory criteria for hazardous waste.

## 5.8 Sample Site Number 8 -- Clarifier at Building 67

During the PESA, one clarifier was observed near the northwest exterior corner of Building 67.

One boring was advanced adjacent to the clarifier to 25 feet bgs with the direct-push sampling system. Samples were collected on 5-foot intervals (Figure 6). The samples collected at 5 and 10 feet bgs were analyzed for VOCs by EPA Method 8010/8020, for TRPH by EPA Method 418.1, and for CCR metals by EPA Method 6010.

Laboratory results from analyzed samples collected at sample site number 8 are as follows:

- TRPH was not detected at or above the detection limit of 10 mg/Kg.
- VOCs were not detected at or above the detection limits of 5  $\mu g/Kg$ .
- CCR metal concentrations in the analyzed samples were within expected ranges and below regulatory limits.

# 5.9 Sample Site Number 9 -- Former Containment Pit at Building 67

During the PESA, a former containment pit was observed at the south end of Building 67. All equipment had been removed from the containment pit, and the containment pit had been steam cleaned. According to DAC personnel, the pit formerly housed an electric discharge machine, which used high voltage electricity and dielectric oils to remove machine burrs from aircraft parts.

One soil boring was advanced by hand-auger techniques to 10 feet below the bottom of a collection sump in the northwest corner of the pit (Figure 6). Soil samples were collected from

5 and 10 feet bgs and analyzed for TRPH by EPA Method 418.1 and for VOCs by EPA Method 8010/8020.

Laboratory results from analyzed samples collected at sample site number 9 are as follows:

- TRPH was not detected at or above the detection limit of 10 mg/Kg.
- VOCs detected in sample 9-10 included 1,1,2-TCA (6.4 μg/Kg) and TCE (10.8 μg/Kg). VOCs were not detected at or above the detection limits of 5 μg/Kg in the 5-foot sample.

# 5.10 Sample Site Number 10 -- Former Dark Room in Building 67

A former dark room was observed in the central eastern portion of Building 67 during the PESA. The dark room processed x-ray film.

Two soil borings were advanced to 5 feet bgs by hand auger techniques (Figure 6). Boring locations were selected near subsurface drainage junctions that were apparent from surface settlement. Soil samples were collected at 2 and 5 feet bgs. The samples were analyzed for CCR metals by EPA Method 6010.

Laboratory results from analyzed samples collected at sample site number 10 are as follows:

 CCR metal concentrations in the analyzed samples were within expected ranges and below regulatory limits.

# 5.11 Sample Site Number 11 - Floor Drains in Building 67

Dark-stained floor drains and surrounding stained floor areas were observed during the PESA in a former air compressor room in the northeast section of Building 67.

Two borings were advanced to 25 feet bgs with the direct-push sampling system at locations adjacent to the floor drains (Figure 6). Samples were collected on 5-foot intervals. The samples collected at 5 and 10 feet bgs were analyzed for TRPH by EPA Method 418.1.

Laboratory results from analyzed samples collected at sample site number 11 are as follows:

• TRPH was not detected at or above the detection limit of 10 mg/Kg.

## 5.12 Sample Site Number 12 - Former Fuel Transfer Station at Building 44

Historical maps reviewed during the PESA indicated the presence of a former railcar fuel transfer station to the southwest of Building 44. The historical drawings also indicated the presence of underground fuel transfer lines leading from Building 44 to Building 41.

Two soil borings (12A and 12B) were advanced with the direct-push sampling system to 25 feet bgs near the approximate locations of the transfer station and the underground pipeline (Figure 4). Soil samples were collected on 5-foot intervals. The samples collected from 5, 10 and 15 feet bgs from boring 12A and all five samples from boring 12B were analyzed for TPHd by modified EPA Method 8015.

Laboratory results from analyzed samples collected from borings 12A and 12B at sample site number 12 are as follows:

The TPHd concentration in sample 12B-15 was 200 mg/Kg. TPHd concentrations
in the other analyzed samples from above and below this interval in boring 12B
were below the detection limit of 10 mg/Kg. TPHd concentrations in analyzed
samples from boring 12A were below the detection limit of 10 mg/Kg.

The containment area around the above ground storage tanks was identified as an area of potential environmental interest. One soil boring (12C) was advanced to 25 feet bgs at a

location within the containment area of the southern aboveground tank. The samples collected at 5 and 10 feet bgs were analyzed for TRPH by EPA Method 418.1 and all five samples were analyzed for VOCs by EPA Method 8010/8020.

Laboratory results from analyzed samples collected from boring 12C at sample site number 12 are as follows:

- TRPH was not detected at or above the detection limit of 10 mg/Kg.
- TCE concentrations were detected in samples 12C-5 (7.8 μg/Kg), 12C-10 (16.2 μg/Kg), 12C-15 (69.2 μg/Kg), and 12C-20 (24.8 μg/Kg). TCE was not detected at or above the detection limit of 5 μg/Kg in the 25-foot sample. Other VOCs were not detected at or above the detection limits of 5 μg/Kg in the analyzed samples.

## 5.13 Sample Site Number 13 -- Former USTs in Building 29

Historical drawings reviewed during the PESA indicated that two underground storage tanks (USTs) were formerly located in an area of Building 29 that was not developed. Sample locations were selected inside of the present structure that corresponded to the tank locations shown on the drawings.

One boring was advanced to 25 feet bgs at each former tank location with the direct-push sampling system (Figure 3). The samples collected at 5 and 10 feet bgs from boring 13A and all five interval samples from boring 13B were analyzed for TRPH by EPA Method 418.1.

Laboratory results from analyzed samples collected at sample site number 13 are as follows:

TRPH was not detected at or above the detection limit of 10 mg/Kg.

## 5.14 Sample Site Number 14 -- Clarifier in Building 29

During the PESA, a clarifier with its covers welded shut was observed in a paint booth area in the central eastern section of Building 29.

One soil boring was advanced adjacent to the clarifier to 25 feet bgs with the direct-push sampling system (Figure 3). The samples collected at 5 and 10 feet were analyzed for VOCs by EPA Method 8010/8020, TRPH by EPA Method 418.1, and for CCR metals by EPA Method 6010.

Laboratory results from analyzed samples collected at sample site number 14 are as follows:

- TRPH was not detected at or above the detection limit of 10 mg/Kg.
- VOCs were not detected at or above the detection limits of 5 μg/Kg.
- CCR metal concentrations in the analyzed samples were within expected ranges and below regulatory limits.

# 5.15 Sample Site Number 15 -- Former Hazardous Waste Accumulation Area at Building 29

A concrete pad to the east of the northeast corner of Building 29 was formerly used as a hazardous waste accumulation area. C-6 facility records showed that limited environmental sampling had indicated that soils beneath the concrete pad may have been impacted by TCE.

One soil boring was advanced to 25 feet bgs with the direct-push sampling system (Figure 3). Samples were collected on 5-foot intervals. The samples collected at 5 and 10 feet bgs were analyzed for TRPH by EPA Method 418.1 and for CCR metals by EPA Method 6010. All five interval samples were analyzed for VOCs by EPA Method 8010/8020.

Laboratory results from analyzed samples collected at sample site number 15 are as follows:

- TRPH was not detected at or above the detection limit of 10 mg/Kg.
- VOCs detected in 5-, 10-, 20-, and 25-foot samples include 1,1-DCA, 1,1-DCE, PCE, 1,1,1-TCA, 1,1,2-TCA and TCE. VOCs were not detected at or above the detection limits of 5 μg/Kg in 15-15. The detected concentrations of these compounds ranged from 5.4 μg/Kg to 202 μg/Kg. The highest concentrations of 1,1-DCA (60 μg/Kg), 1,1-DCE (18.6 μg/Kg), PCE (202 μg/Kg), 1,1,1-TCA (13.5 μg/Kg), and TCE (200 μg/Kg) were found in the bottom sample from the boring (25-foot interval).
  - 1,1-DCA concentrations reported in four samples ranged from 18.4  $\mu$ g/Kg (15-20) to 60  $\mu$ g/Kg (15-25).
  - 1,1-DCE was detected in 15-25 at 18.6 μg/Kg.

PCE was detected in four samples in concentrations ranging from 56.8  $\mu$ g/Kg (15-10) to 202.0  $\mu$ g/Kg (15-25).

- 1,1,1-TCA was detected in 15-10 at 7.4  $\mu$ g/Kg, and 15-25 at 13.5  $\mu$ g/Kg.
- 1,1,2-TCA concentrations reported in four samples ranged from 5.4  $\mu$ g/Kg (15-5) to 24.5  $\mu$ g/Kg (15-10).

TCE concentrations reported in four samples ranged from 17.8  $\mu$ g/Kg (15-10) to 200.0  $\mu$ g/Kg (15-25).

 CCR metals concentrations in the analyzed samples were within expected ranges and below regulatory limits.

# 5.16 Sample Site Number 16 - Former Cyanide Solution Storage Area in Building 33

Historical drawings reviewed during the PESA indicated that Building 33 was a former cyanide solution storage building.

One boring was advanced to 25 feet bgs with the direct-push sampling system inside of the building (Figure 5). The samples collected at 5 and 10 feet were analyzed for total cyanides by EPA Method 335.3, and for VOCs by EPA Method 8010/8020.

Laboratory results from analyzed samples collected at sample site number 16 are as follows:

- Total cyanides in the analyzed samples were below the detection limit of 0.5 mg/Kg.
- VOCs were not detected at or above the detection limit of 5 μg/Kg.

# 5.17 Sample Site Number 17 -- Clarifier at Building 36

One clarifier was observed during the PESA on the north exterior of Building 36.

One boring was advanced adjacent to the clarifier to 25 feet bgs with the direct-push sampling system (Figure 4). The samples collected at 5, 10, 15, 20, and 25 feet bgs were analyzed for VOCs by EPA Method 8010/8020, and for TRPH by EPA Method 418.1. Samples collected at 5 and 10 feet bgs were also analyzed for CCR Metals by EPA Method 6010.

Laboratory results from analyzed samples collected at site number 17 are as follows:

- Sample 17-10 contained concentrations of TRPH at 179 mg/Kg. TRPH was not detected at or above the detection limits of 10 mg/Kg in the other analyzed samples from 5, 15, 20 and 25 feet bgs.
- VOCs detected in sample 17-10 included 1,1-DCE (30 μg/Kg) and TCE (95 μg/Kg).
   TCE was also detected in samples 17-15 (7.1 μg/Kg), 17-20 (10.3 μg/Kg), and 17-25 (272 μg/Kg). Sample 17-25 also contained 1,1-DCE (162 μg/Kg) and cis-1,2-DCE (19.2 μg/Kg). Other VOCs were not detected at or above the detection limits of 5 μg/Kg in the analyzed samples. No VOCs were detected in the sample from 5 feet bgs.
- CCR metal concentrations in the analyzed samples from 5- and 10-foot intervals were within expected ranges and below regulatory limits.

#### 6.0 CONCLUSIONS

Seventeen sampling locations in areas of environmental interest in and around eight buildings in Parcel A of the DAC C-6 Facility were investigated. The results of the Phase II Investigation identified only a limited number of areas of continued environmental interest.

TRPH was detected at a maximum concentration of 5,700 mg/Kg at 5 feet bgs at machine pit G in the north end of Building 37 (sample site 3G). TRPH was neither detected in the sample analyzed from 10 feet bgs at this location, nor detected in the closest samples to the south from machine pit H. These data suggest a small area of limited lateral and vertical extent of TRPH impacted soils that the contractor should be aware of during demolition.

TPHd was detected at a maximum concentration of 200 mg/Kg at 15 feet bgs north of Building 44 near the location of the former fuel transfer line (sample site 12-B). TPHd was not detected in the samples from 5, 10, 20, and 25 feet bgs in this location, suggesting a limited vertical extent of impacted soils.

VOCs were detected at the former waste accumulation area north of Building 29 (sample site 15) to a total depth of 25 feet bgs. The maximum concentration of individual VOCs was 60.0  $\mu$ g/Kg 1,1-DCA (25 feet bgs), 202.0  $\mu$ g/Kg PCE (25 feet bgs), 18.6  $\mu$ g/Kg 1,1-DCE (25 feet bgs), 13.5  $\mu$ g/Kg 1,1-TCA (25 feet bgs), 24.5  $\mu$ g/Kg 1,1,2-TCA (10 feet bgs) and 200.0  $\mu$ g/Kg TCE (25 feet bgs). This area should be monitored during demolition activities and possibly investigated further to determine the vertical extent of the detected VOCs.

VOCs were detected at the clarifier adjacent to Building 36 at 25 feet bgs (sample site 17). The maximum concentration of individual VOCs, primarily found at 25 feet bgs, was 1,1-DCE (162  $\mu$ g/Kg), cis-1,2-DCE (19.2  $\mu$ g/Kg) and TCE (272 mg/Kg). Of these compounds, only TCE had detections at shallower sampling levels. 1,2-DCA was found in the 10 foot sample at 30  $\mu$ g/Kg. This area is immediately north of an area of previously detected VOCs and may reflect the northwestern extent of the area which originates outside of Parcel A.

VOCs were detected beneath the southernmost machine pits (pits O and K ) in Building 37 (sample sites 3k and 30). The maximum concentration of individual VOCs beneath pit O was 1,1-DCE (76.6  $\mu$ g/Kg ) at 20 feet bgs and TCE (242.0  $\mu$ g/Kg ) at 20 feet bgs, and beneath pit K was 1,1-DCE (8.0  $\mu$ g/Kg ) at 10 feet bgs and TCE (97.0  $\mu$ g/Kg ) at 10 feet bgs. Both pits also had detections of TCE at 25 feet bgs. These data suggest that vapors from the VOC impacted area at Building 36 may extend beneath the southern portion of Building 37. This area should be monitored during demolition activities.

At machine pit J in Building 37 (sample site 3J), PCBs were found at 10 feet bgs at a concentrations of 9,800  $\mu$ g/Kg. PCB concentrations decreased with the depth in the succeeding sample decreased to 130  $\mu$ g/Kg. The Total Threshold Limit Concentration value (CCR Title 22) defines a California hazardous waste. For PCBs in soil, the TTLC value is 10,000  $\mu$ g/Kg. These data suggest an area of limited vertical and lateral extent which should be monitored during demolition activities.

At machine pit F in Building 37 (sample site 3F), BTEX concentrations in a sample collected from 5 feet bgs ranged from 5.0  $\mu$ g/Kg to 58.6  $\mu$ g/Kg. BTEX concentrations were not detected at or above the detection limits in the 10 foot sample, suggesting that impact by BTEX does not extend to 10 feet bgs.

#### 7.0 REFERENCES

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# TABLE 1 SAMPLING AND ANALYTICAL PROGRAM<sup>a</sup>

Douglas Aircraft Company C-6 Facility Torrance, California May, 1996 K/J 954019.01

Sample	Boring	Collection				Analysis			
Site	Number	Method	418.1 <sup>b</sup>	8010/8020°	8015-M <sup>d</sup>	8010/8020	6010°	8080 <sup>f</sup>	335.3 <sup>g</sup>
			М	obile Laborator	/		Standard	Laboratory	
1	1	Direct-Push	2	2			2		
2	2A	Direct-Push	2	5			2		
	2B	Direct-Push	2	2			2		
3	3A-1	LimAcc. Rig	2	2			2	2	
	3A-2	LimAcc. Rig	2	2			2	2	
	3B-2	Direct-Push	2	2			2	2	<del></del>
İ	3C-1	Direct-Push	2	2			2	2	
	3C-2	Direct-Push	2	2			2	2	
	3D-1	LimAcc. Rig	2	2			2	2	
	3D-2	Direct-Push	2	2			2	2	
	3E-1	Direct-Push	2	2			2	2	
	3E-2	Direct-Push	2	2			2	2	
	3F-1	LimAcc. Rig	2	2			2	2	
	3F-2	LimAcc. Rig	2	2			2	2	
	3F-3	LimAcc. Rig	2	2			2	2	
	3G	Direct-Push	2	2			2	2	
	3H	Direct-Push	2	2			2	2	
	3I-1	LimAcc. Rig	2			2	2	2	
	31-2	LimAcc. Rig	2			2	2	2	
	3J-1	B-53 Rig	2	2			2	2	
	3J-2	B-53 Rig	2			2	2	2	
	3K-1	B-53 Rig	2	2		2	2	2	
	3K-2	B-53 Rig	4	4			2	2	
	3L-1	LimAcc. Rig	2			2	2	2	
	3L-2	LimAcc. Rig	2			2	2	2	
	3M-1	B-53 Rig	2	2			2	2	
	3M-2	B-53 Rig	2	2			2	2	
	3M-3	B-53 Rig	2	2			2	2	

Table Key

Lim.-Acc. Rig - Limited Access Rig

Table Notes:

a) Table presents the number of samples analyzed for a given method from each sampling site. A complete list of compounds tested and detection limits are shown in analytical results reports included in Appendix C.

- b) Total Recoverable Petroleum Hydrocarbons (TRPH) analyzed per EPA Method 418.1
- c) Volatile Organic Compounds (VOCs) analyzed per EPA Method 8010/8020.
- d) Total Petroleum Hydrocarbons as Diesel (TPH-d) analyzed per EPA Method 8015-M.
- e) Metals analyzed per EPA Method 6010.
- f) Polychlorinated biphenyls (PCBs) analyzed per EPA Method 8080.
- g) Cyanide analyzed per EPA Method 335.5.

# TABLE 1 SAMPLING AND ANALYTICAL PROGRAM<sup>a</sup>

Douglas Aircraft Company C-6 Facility Torrance, California May, 1996 K/J 954019.01

Sample	Boring	Collection				Analysis			
Site	Number	Method	418.1 <sup>b</sup>	8010/8020°	8015-M <sup>d</sup>	8010/8020	6010°	8080 <sup>f</sup>	335.3 <sup>9</sup>
			M	obile Laboratory	1		Standard	Laboratory	
3	3N-1	B-53 Rig	2			2	2	2	
	3N-2	B-53 Rig	2	2			2	2	
	30-1	B-53 Rig	4	4			2	2	
	30-2	B-53 Rig	4	4			2	2	
4	4	LimAcc. Rig		2			2	2	
5	5A	Direct-Push	1						
	5B	Direct-Push	11						
6	6	Direct-Push		2			<sup>'</sup> 2	2	
7	7A	Direct-Push		2			2		
	7B	Hand Auger		0			0		
	7C	Direct-Push		2			2		
	7D	Direct-Push		3			3		
8	8	Direct-Push	2	2			2		
9	9	Hand Auger	2	2					
10	10A	Hand Auger					2	1	
	10B	Hand Auger					2		
11	11A	Direct-Push	2						
	11B	Direct-Push	2						,
12	12A	Direct-Push			3				ŀ
	12B	Direct-Push		ļ	5			ł	
	12C	Direct-Push	2	5					ļ
13	13A	Direct-Push	2						
	13B	Direct-Push	5						
14	14	Direct-Push	2	2			2		
15	15	Direct-Push	2	5			2		
16	16	Direct-Push		2					2
17	17	Direct-Push	5	5			2		
Totals	56		98	95	8	14	87	62	2

#### Table Key

Lim.-Acc. Rig - Limited Access Rig

Table Notes:

a) Table presents the number of samples analyzed for a given method from each sampling site A complete list of compounds tested and detection limits are shown in analytical results reports included in Appendix C.

- b) Total Recoverable Petroleum Hydrocarbons (TRPH) analyzed per EPA Method 418.1
- c) Volatile Organic Compounds (VOCs) analyzed per EPA Method 8010/8020.
- d) Total Petroleum Hydrocarbons as Diesel (TPH-d) analyzed per EPA Method 8015-M.
- e) Metals analyzed per EPA Method 6010
- f) Polychlorinated biphenyls (PCBs) analyzed per EPA Method 8080.
- g) Cyanide analyzed per EPA Method 335.5.

## TABLE 2 SOIL SAMPLE ANALYTICAL RESULTS - DETECTED ORGANIC COMPOUNDS<sup>a</sup>

#### Douglas Aircraft Company C-6 Facility Torrance, California May 1996 K/J 954019.01

Boring	Sample	Sample	TRPH	TPHd	Benzene	Ethyl	Toluene	Xylenes	1,1-DCA	1,2-DCA	1,1-DCE	Cis- 1,2-DCE	PCE (µg/Kg)	1,1,1-TCA (µg/Kg)	1,1,2-TCA (µg/Kg)	TCE (µg/Kg)	PCB <sup>r</sup> Aroclor 1248
Location	1.D.	Depth Ft. bgs <sup>b</sup>	(mg/Kg) <sup>c</sup>	(mg/Kg) <sup>d</sup>	(µg/Kg)*	Benzene (µg/Kg)	(µg/Kg)	(µg/Kg)	(µg/Kg)	(µg/Kg)	(µg/Kg)	(µg/Kg)	(פאיעפין)	(PW-CG)	(481.61)	(A81.48)	(µg/Kg)
Method De	tection Limit		10	10	5	5	5	5	5	5	5	5	5	5	5	5	33
Bldg. 29	15-5	5							21.0				69.9	ļ. <u></u>	5.4	21.2	
	15-10	10							23.7				56.8	7.4	24.5	17.8	
	15-15	15															
	15-20	20							18.4				101.8		14.8	23.7	
	15-25	25						<u> </u>	60.0		18.6		202.0	13.5	11.5	200.0	
Bldg. 36	17-5	5															
	17-10	10	179								30					95	
	17-10 dup	10	168														
i	17-15	15												ļ		7.1	<u> </u>
	17-20	20												<u> </u>		10.3	
	17-25	25								<u></u>	162	19.2		ļ		272	<u> </u>
Bidg. 37	2A-5	5							7.5	<u> </u>				<u> </u>			
	2A-10	10													<u> </u>	5.0	
	2A-15	15														8.1	
	2A-20	20										<u></u>		1			
	2A-25	25														5.4	

Table Va

Result did not exceed Method Detection Limit.

Not analyzed for the given parameter.

mg/Kg - milligrams per kilogram

μg/Kg - micrograms per kilogram

DCA - Dichloroethane

DCE - Dichloroethene

TCA - Trichloroethane

TCE - Trichloroethene

PCE - Tetrachloroethene

PCB - Polychlorinated biphenyls

#### Table Notes:

- a) Table presents data for compounds detected one or more times and includes all samples analyzed for a boring where compounds were detected.
- A complete list of compounds tested and detection limits are shown in analytical results reports included in Appendix C.

- b) Below Ground Surface
- c) Total Recoverable Petroleum Hydrocarbons (TRPH) analyzed per EPA Test Method 418.1.
- d) Total Petroleum Hydrocarbons as Diesel (TPHd) analyzed per EPA Method 8015M.
- e) Volatile Organic Compounds (VOCs) analyzed per EPA Method 8010/8020.
- f) Polychlorinated biphenyls (PCBs) analyzed per EPA Method 8080. Only Arocior 1248 was detected.
- g) Boring and sampling was conducted from the bottom of an open machine pit. Sample depths are adjusted 6 feet to show depth below the floor of the building, consistent with other samples.

### TABLE 2 SOIL SAMPLE ANALYTICAL RESULTS - DETECTED ORGANIC COMPOUNDS<sup>a</sup>

#### Douglas Aircraft Company C-6 Facility Torrance, California May 1996 K/J 954019.01

Boring Location	Sample I.D.	Sample Depth Ft. bgs <sup>b</sup>	TRPH (mg/Kg) <sup>c</sup>	TPHd (mg/Kg) <sup>d</sup>	Benzene (µg/Kg)*	Ethyl Benzene (µg/Kg)	Toluene (µg/Kg)	Xylenes (µg/Kg)	1,1-DCA (µg/Kg)	1,2-DCA (µg/Kg)	1,1-DCE (µg/Kg)	Cis- 1,2-DCE (µg/Kg)	PCE (µg/Kg)	1,1,1-TCA (μg/Kg)	1,1,2-TCA (µg/Kg)	TCE (µg/Kg)	PCB <sup>r</sup> Aroclor 1248 (µg/Kg)
Method D	etection Limit		10	10	5	5	5	5	5	5	5	5	5	5	5	5	33
Bldg. 37	3F-2-5	119			5.0	58.0	18.6	15.0									
	3F-2-10	16 <sup>g</sup>															
	3G-5	5	5,700														
	3G-10	10															
	3J-2-10	10	23														9,800
	3J-2-15	15															130
	3K-2-10	10									8.0					97.0	<u> </u>
	3K-2-10 dup	10															
	3K-2-15	15														15.3	
	3K-2-20	20														8.4	
	3K-2-25	25														38.2	
	3N-1-10	10	157														
	3N-1-10 dup	10	145														
	3N-1-15	15										l					
	3N-2-10	10	134														
	3N-2-10 dup	10	121														
	3N-2-15	15															

Table Key;

Result did not exceed Method Detection Limit.

Not analyzed for the given parameter.

mg/Kg - milligrams per kilogram μg/Kg - micrograms per kilogram

DCA - Dichloroethane DCE - Dichloroethane TCA - Trichloroethane

TCE - Trichloroethene
PCE - Tetrachloroethene

PCB - Polychlorinated biphenyls

#### Table Notes:

a) Table presents data for compounds detected one or more times and includes all samples analyzed for a boring where compounds were detected.

A complete list of compounds tested and detection limits are shown in analytical results reports included in Appendix C.

Samples were collected between 25 March and 8 April 1996.

b) Below Ground Surface

c) Total Recoverable Petroleum Hydrocarbons (TRPH) analyzed per EPA Test Method 418.1.

d) Total Petroleum Hydrocarbons as Diesel (TPHd) analyzed per EPA Method 8015M.

e) Volatile Organic Compounds (VOCs) analyzed per EPA Method 8010/8020.

f) Polychlorinated biphenyls (PCBs) analyzed per EPA Method 8080. Only Aroclor 1248 was detected.

g) Boring and sampling was conducted from the bottom of an open machine pit. Sample depths are adjusted 6 feet to show depth below the floor of the building,

consistent with other samples.

#### TABLE 2 SOIL SAMPLE ANALYTICAL RESULTS - DETECTED ORGANIC COMPOUNDS\*

#### Douglas Aircraft Company C-6 Facility Torrance, California May 1996 K/J 954019.01

Boring Location	Sample I.D.	Sample Depth Ft. bgs <sup>b</sup>	TRPH (mg/Kg) <sup>c</sup>	TPHd (mg/Kg) <sup>d</sup>	Benzene (µg/Kg)°	Ethyl Benzene (µg/Kg)	Toluene (µg/Kg)	Xylenes (μg/Kg)	1,1-DCA (µg/Kg)	1,2-DCA (µg/Kg)	1,1-DCE (µg/Kg)	Cis- 1,2-DCE (µg/Kg)	PCE (µg/Kg)	1,1,1-TCA (µg/Kg)	1,1,2-TCA (µg/Kg)	TCE (µg/Kg)	PCB <sup>f</sup> Arocior 1248 (µg/Kg)
Method De	tection Limit		10	10	5	5	5	5	5	5	5	5	5	5	5	5	33
Bldg. 37	30-1-10	10									5.0					7.2	
	30-1-15	15															
	30-1-20	20														13.5	
	30-1-25	25														10.0	
	30-2-10	10									51.0					121.0	36
	30-2-15	15									34.6					81.0	
	30-2-20	20									76.6					242.0	
	30-2-25	25									20.7					98.7	
Bldg. 43	12-B-5	5															
]	12-B-10	10															
	12-B-15	15		200													
	12-B-20	20															
	12-B-25	25															
	12-C-5	5	40													7.8	
	12-C-10	10	40									}				16.2	
	12-C-10 dup	10	40														
	12-C-15	15							T							69.2	
	12-C-20	20														24.8	
	12-C-25	25															

Table Key; Result did not exceed Method Detection Limit. Not analyzed for the given parameter.

mg/Kg - milligrams per kilogram μg/Kg - micrograms per kilogram

DCA - Dichloroethane

DCE - Dichloroethene

TCA - Trichioroethane

TCE - Trichloroethene

PCE - Tetrachloroethene PCB - Polychlorinated biphenyis

#### Table Notes:

- a) Table presents data for compounds detected one or more times and includes all samples analyzed for a boring where compounds were detected.
- A complete list of compounds tested and detection limits are shown in analytical results reports included in Appendix C.

- b) Below Ground Surface
- c) Total Recoverable Petroleum Hydrocarbons (TRPH) analyzed per EPA Test Method 418.1.
- d) Total Petroleum Hydrocarbons as Diesel (TPHd) analyzed per EPA Method 8015M.
- e) Volatile Organic Compounds (VOCs) analyzed per EPA Method 8010/8020.
- f) Polychlorinated biphenyls (PCBs) analyzed per EPA Method 8080. Only Aroclor 1248 was detected.
- g) Boring and sampling was conducted from the bottom of an open machine pit. Sample depths are adjusted 6 feet to show depth below the floor of the building, consistent with other samples.

### TABLE 2 SOIL SAMPLE ANALYTICAL RESULTS - DETECTED ORGANIC COMPOUNDS<sup>4</sup>

#### Douglas Aircraft Company C-6 Facility Torrance, California May 1996 K/J 954019.01

Boring Location	Sample 1.D.	Sample Depth Ft. bgs <sup>b</sup>	TRPH (mg/Kg) <sup>c</sup>	TPHd (mg/Kg) <sup>d</sup>	Benzene (µg/Kg)*	Ethyl Benzene (µg/Kg)		Xylenes (µg/Kg)	1,1-DCA (µg/Kg)	1,2-DCA (µg/Kg)	1,1-DCE (µg/Kg)	Cis- 1,2-DCE (µg/Kg)	PCE (µg/Kg)	1,1,1-TCA (µg/Kg)	1,1,2-TCA (µg/Kg)	TCE (µg/Kg)	PCB <sup>r</sup> Aroclor 1248 (µg/Kg)
Method De	etection Limit		10	10	5	5	5	5	5	5	5	5	5	5	5	5	33
Bldg. 67	7C-5	5									16						
	7C-10	10															
	7D-10	10							8.3						19		
	7D-15	15													7.9		
	7D-20	20								8.7					18		
	9-5	5															
	9-10	10													6.4	10.8	

Table Key:

Result did not exceed Method Detection Limit.

Not analyzed for the given parameter.

mg/Kg - milligrams per kilogram

µg/Kg - micrograms per kilogram

DCA - Dichloroethane

DCE - Dichloroethene

TCA - Trichloroethane

TCE - Trichloroethene

PCE - Tetrachloroethene

PCB - Polychiorinated biphenyls

#### Table Notes:

- a) Table presents data for compounds detected one or more times and includes all samples analyzed for a boring where compounds were detected.
- A complete list of compounds tested and detection limits are shown in analytical results reports included in Appendix C.

- b) Below Ground Surface
- c) Total Recoverable Petroleum Hydrocarbons (TRPH) analyzed per EPA Test Method 418.1.
- d) Total Petroleum Hydrocarbons as Diesel (TPHd) analyzed per EPA Method 8015M.
- e) Voiatile Organic Compounds (VOCs) analyzed per EPA Method 8010/8020.
- f) Polychlorinated biphenyls (PCBs) analyzed per EPA Method 8080. Only Aroclor 1248 was detected.
- g) Boring and sampling was conducted from the bottom of an open machine pit. Sample depths are adjusted 6 feet to show depth below the floor of the building, consistent with other samples.

# TABLE 3 COMPARISON OF SITE SOIL INORGANIC CHEMICAL CONCENTRATIONS WITH COMMON SOIL CONCENTRATIONS AND STATE THRESHOLD LIMIT VALUES

Douglas Aircraft Company C-6 Facility
Torrance, California
May 1996
K/J 954019.01

TESTED	CONCENTRATION	COMMON RANGE	CCR	CCR
INORGANIC	RANGE	IN SOIL(a)	TTLC(b) Value	STLC(c) Value
CHEMICAL	(mg/Kg)	(ppm)	(mg/Kg)	(mg/L)
ANTIMONY	<1.0	<1 - 2.6 <sup>d</sup>	500	15
ARSENIC	<10 - 17.5	1 - 50	500	5
BARIUM	49.2 - 290	100 - 3,000	10,000	100
BERYLLIUM	<0.50 - 1.2	0.1 - 40	75	0 .75
CADMIUM	<0.20 - 2.5	0.01 - 0.7	100	1 .0
TOTAL CHROMIUM	18.0 - 40.7	1 - 1,000	2,500	560
HEXAVALENT CHROMIUM	<0.10 - 1.1	Not available	500	5
COBALT	5.5 - 48.1	1 - 40	8,000	80
COPPER	14.0 - 171	2 - 100	2,500	25
LEAD	3.9 - 19.8	2 - 200	1,000	5
MERCURY	<0.040 - 0.094	<0.01 - 4.6 <sup>d</sup>	20	0 .2
MOLYBDENUM	<4.0	<3 - 7 <sup>d</sup>	3,500	350
NICKEL	11.4 - 70.1	5 - 500	2,000	20
SELENIUM	<0.50 - 0.90	0.1 - 2	100	1
SILVER	<0.50 - 3.4	0.01 - 5	500	5
THALLIUM	<200	2.4 - 31 <sup>d</sup>	700	7
VANADIUM	24.7 - 75.5	20 - 500	2,400	24
ZINC	45.8 - 184	10 - 300	5,000	250

mg/Kg - milligrams per Kilogram

mg/L - milligrams per Liter

ppm - parts per million

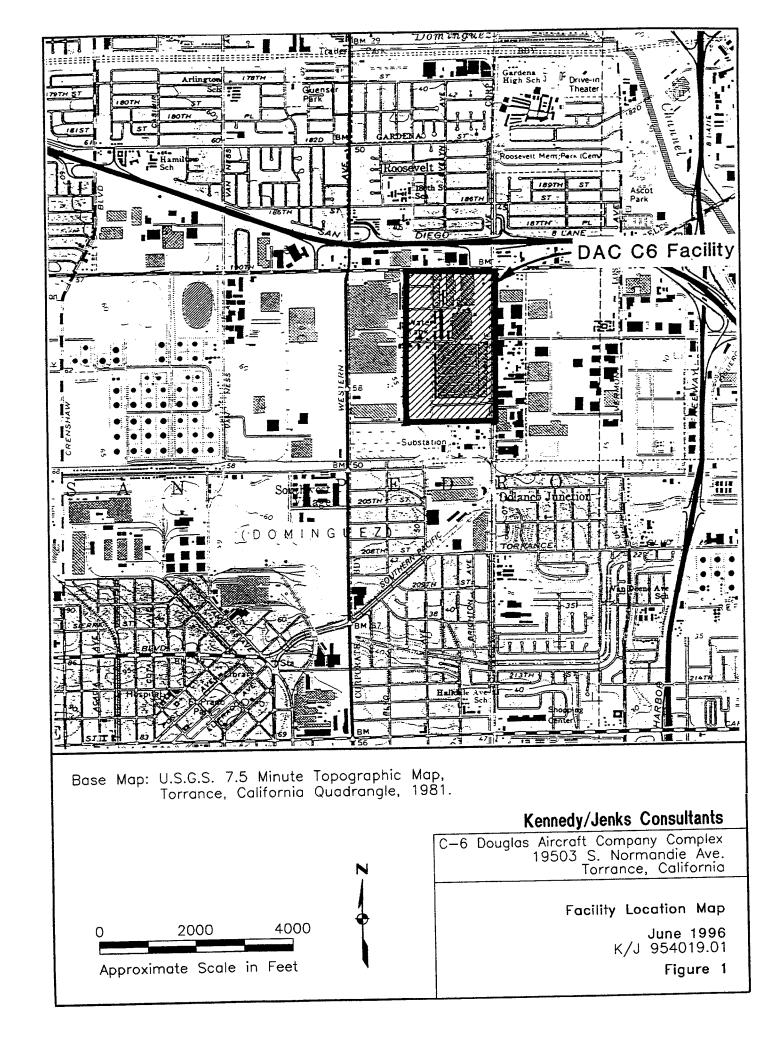
a) Chemical Equilibria in Soils. Willard L. Lindsay, John L. Wiley & Sons, NY 1979.

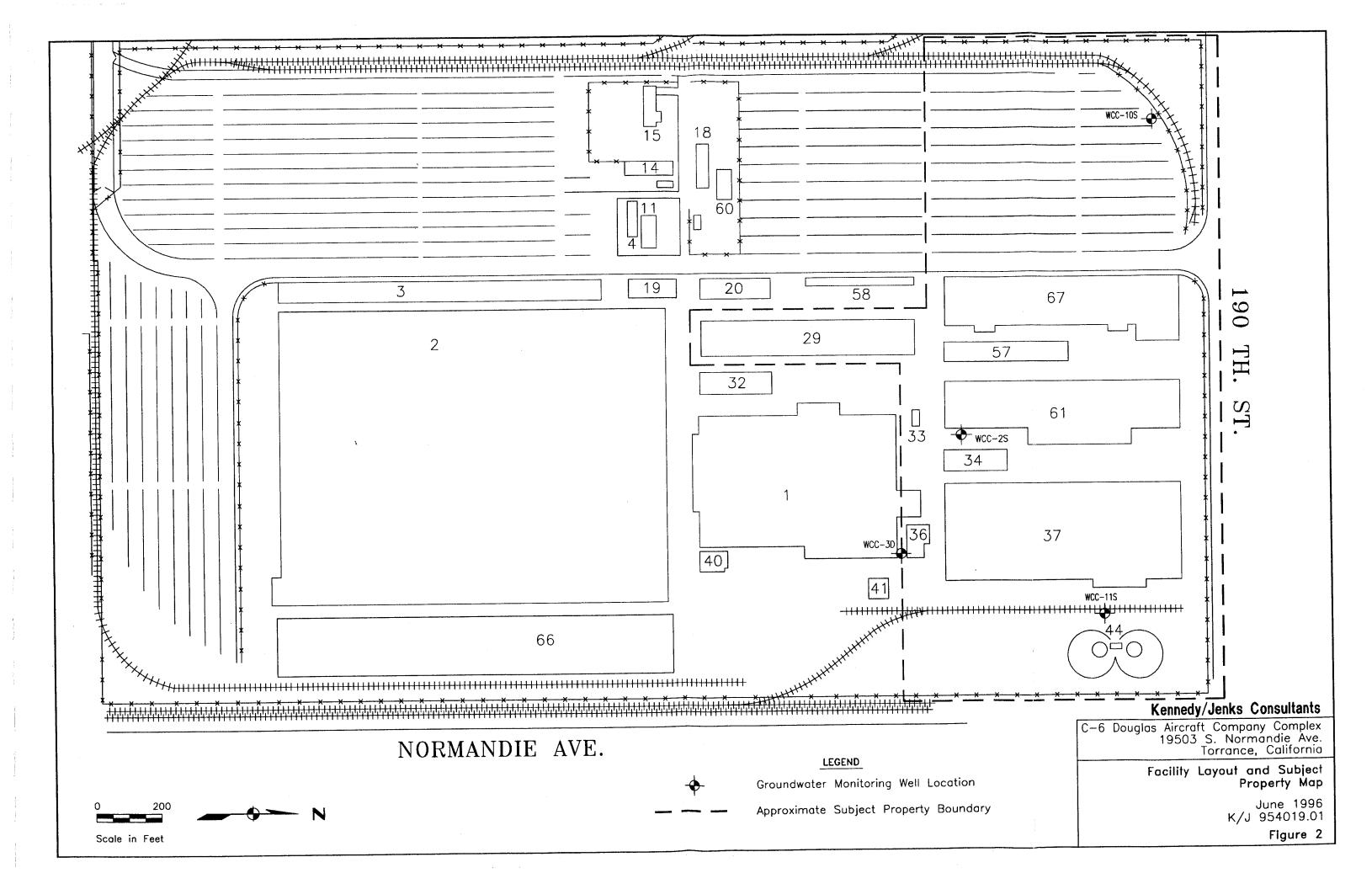
b) CCR, Title 22, Total Threshold Limit Concentration (TTLC) value.

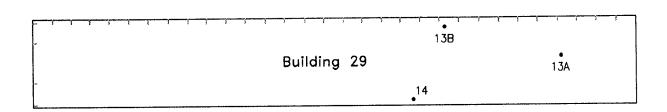
Value set to define a California hazardous waste based on the total concentration.

- c) California Code of Regulations, (CCR), Title 22, Soluble Threshold Limit Concentration (STLC) value.
- Value set to define a California hazardous waste based on leachate concentration.
- d) Element Concentrations in Soils and Other Surficial Materials of the Conterminous United States. H.T. Shacklette and J. G. Boerngen, USGS Professional Paper 1270, U.S. Government Printing Office,

Washington, 1984.







Sample Site 15 Volatile Organic Compounds (ug/Kg) TRPH Depth 1,1,1-TCA 1,1,2-TCA (mg/Kg) 1,1-DCA 1,1-DCE PCE TCE < 5 21.2 5.4 < 10 21.0 < 5 69.9 24.5 23.7 7.4 17.8 < 10 < 5 56.8 10 < 5 15 < 5 < 5 < 5 < 5 < 5 NA 14.8 23.7 101.8 < 5 20 NA 18.4 < 5 200.0 202.0 11.5 25 60.0 18.6

# CONCRETE PAD

#### Legend:

Phase II approximate boring locations.

TRPH Total Recoverable Petroleum Hydrocarbons

1,1-DCA 1,1- Dichloroethane

1,1-DCE 1,1- Dichloroethene

1,1,1-TCA 1,1,1- Trichloroethane

1,1,2-TCA 1,1,2- Trichloroethane

PCE Perchloroethene

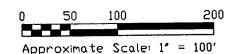
TCE Trichloroethene

<10 Result fell below the given method detection limit

NA Not Analyzed

mg/Kg milligrams per Kilogram

ug/Kg micrograms per Kilogram



#### Kennedy/Jenks Consultants

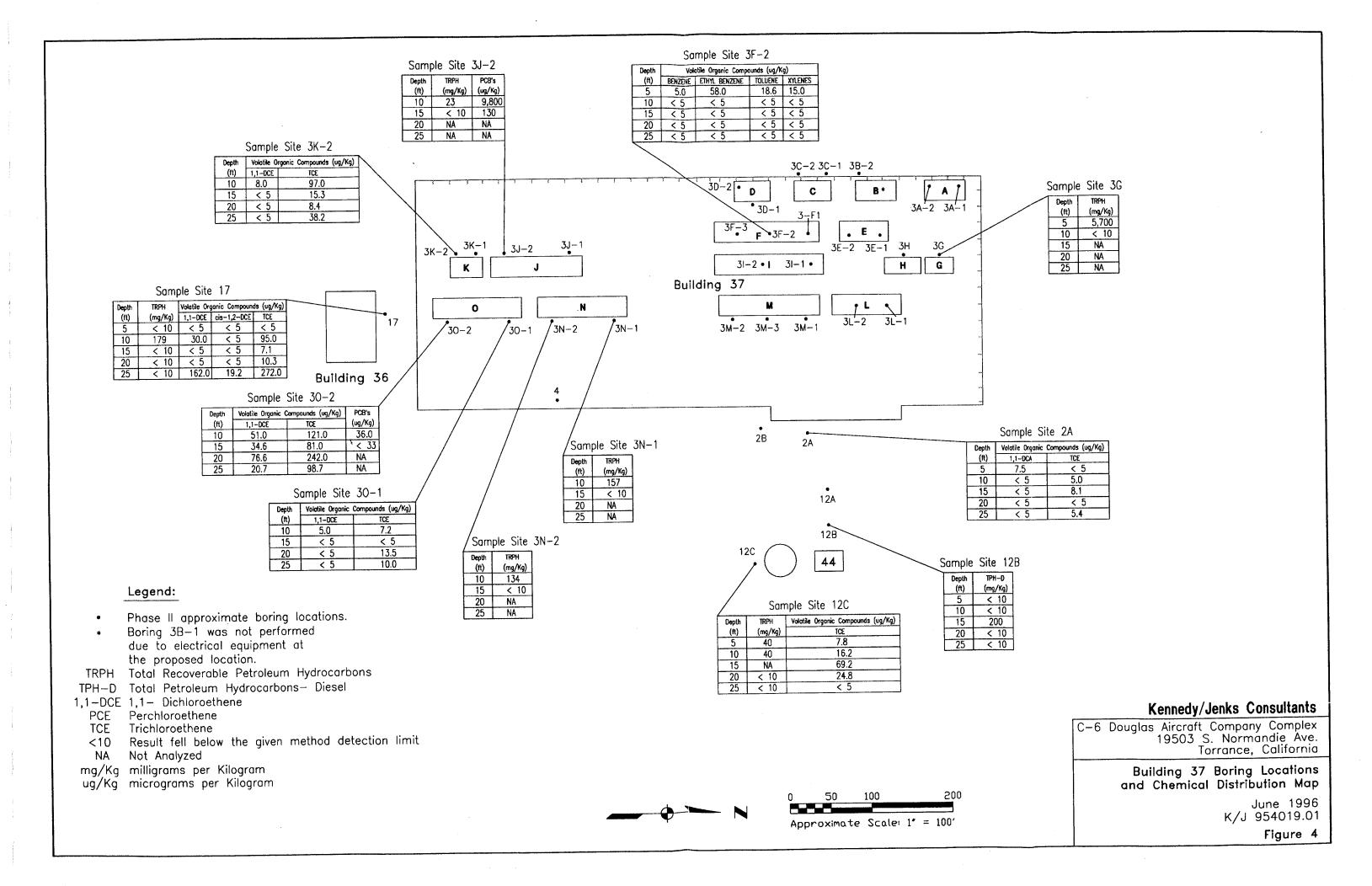
C-6 Douglas Aircraft Company Complex 19503 S. Normandie Ave. Torrance, California

Building 29 Boring Locations and Chemical Distribution Map

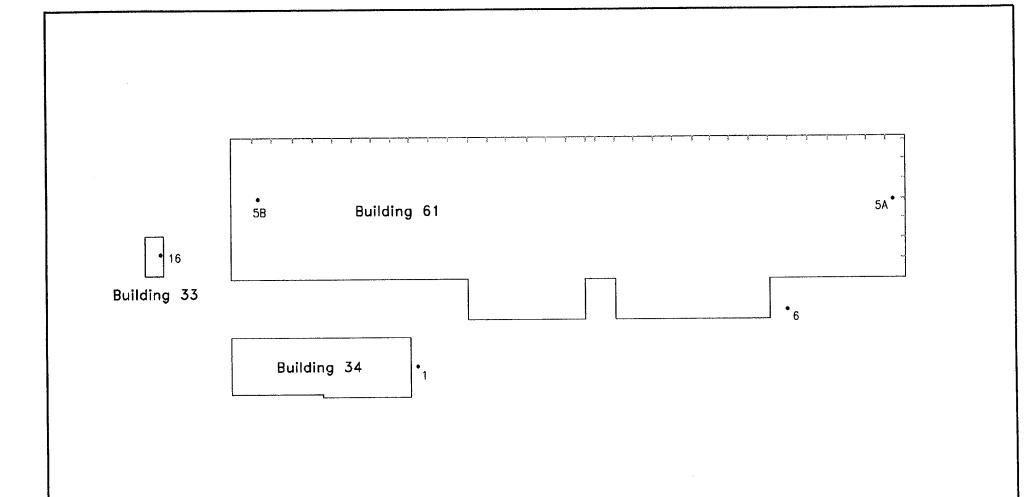
June 1996 K/J 954019.01

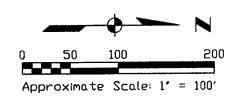
Figure 3











#### Legend:

Phase II approximate boring locations.

Note: No chemical detections were reported for the above shown sample sites.

### Kennedy/Jenks Consultants

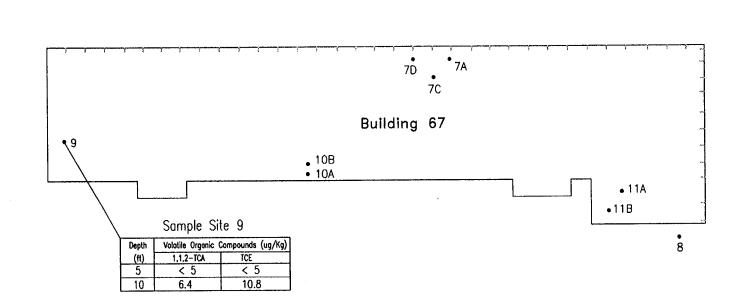
C-6 Douglas Aircraft Company Complex 19503 S. Normandie Ave. Torrance, California

Building 61 Boring Locations and Chemical Distribution Map

June 1996 K/J 954019.01

Figure 5





#### Legend:

Phase II approximate boring locations.

1,1,2-TCA 1,1,2- Trichloroethane

TCE Trichloroethene

< 5 Result fell below the given method detection limit

ug/Kg micrograms per Kilogram

#### Kennedy/Jenks Consultants

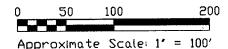
C-6 Douglas Aircraft Company Complex 19503 S. Normandie Ave. Torrance, California

Building 67 Boring Locations and Chemical Distribution Map

June 1996 K/J 954019.01

Figure 6





## Appendix A

BORIN	G LC	CATION orth o	f Rna	din	g 3/	4						Boring Name —	_1		
DRILL	ING (	COMPAN	Ϋ́	-41	<u></u>	•				DRILLER	ete	Project Name	DAC	C-6 Parcel A	Phase II
DRILL	ING I	faness METHOL	(S)							DRILL BIT	(C) CIZE	-	95401		
DEPTH	TO	eopro Water								2	IA.	Project Number		TOTAL DEPTH	26.6
LOGGI	N	ot Enc	ounte	red	<u> </u>						H	DATE STARTED		DATE COMPLETED	26 ft.
	J MPLE	. Knigl	nt					_				4/1/96		<u> </u>	4/1/96
	1 1	Head Space Reading (mg/L)	Depth (feet)		Lith	nology	,		USCS Log	Manuell Color	so	IL DESCRIPTION AND	DRILLING	REMARKS	
으로	١	± 2.5.€		M	M	M	M	쥬			Concrete, 3 inches				
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		6.8	5-			Ш	Ш	Ш				~ 1			_
	×	0.0	١			$\ \ $	$\  \ $		ML	į	Clayey SILT: very dark bro	wn, some very line sand,	moist, some	огдане шаста	-
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	×	6.0	10-						ML		brown, increasing sand con	ent			-
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	×	7.2	15-					$\ $	ML		Sandy SILT: brown, very fi	ne sand, moist			4
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	×	7.1	20-					$\ $	ML		some clay				-
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		7.0	25-			Ш			ML		decreasing clay				,
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BORI	NG L	CATION	Rnildi	nø 37	. adisa	cent	to clari	ñers		Boring Name —	2A	
DRIL	LING	COMPAN Maness	ΙΥ					DRILLER	te	Project Name	DAC	C-6 Parcel A Phase II
DRIL	LING	METHOI Geopro	(S)					DRILL BIT (	m	Project Number	95401	9.01
DEPT	нто	WATER								ELEVATION		TOTAL DEPTH 26 ft.
LOGO	ED B	Not End		red						DATE STARTED		DATE COMPLETED
	AMPL	I. Knig	ht			_	T			4/1/96		4/1/96
Driven	- 1	I lead Space Reading (mg/I.)	Depth (feet)	Li	ithology		USCS Log	Muneti Color		IL DESCRIPTION AND	DRILLING	REMARKS
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		8.0	51				ML		Sandy SILT: black to dark b	rown, tine sand, with clay	y, only odor,	moist –
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▓		8.1	10-				ML		dark brown to black, weake	r odor		_
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₩	▓	7.8	15-				ML		brown, moist, no odor			• -
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<b>※</b>	***	7.9	20-				ML					_
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		<b>~</b> ^	25-				ML		some medium sand			-
	***	7.8	<u> </u>	Ш	ШШ	Ш						
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-			30-						Boring Completed at 26 fe	eet.		-
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SORING LO	CATION	Ruildi	nø	37	ed i	ace	nt t	o clarii	ñers		Boring Name —	2B		
ORILLING	COMPAI Maness	1Y	ne.	<u> </u>				<u></u>	DRILLER Pe	te	Project Name	DAC	C-6 Parcel A	Phase II
DRILLING	METHO	)(S)							DRILL BIT	(S) SIZE	Project Number _	95401	9.01	
DEPTH TO	Geopro WATER								1 21	41.	ELEVATION		TOTAL DEPTH	26 ft.
OGGED B	Not En		red	·							DATE STARTED 4/2/96		DATE COMPLETED	4/2/96
SAMPL	J. Knig				_		Т							72,0
Driven Recovered Collected	Space Space Reading (mg/l.)	Depth (feet)		Lith	olog	,		USCS Log	Mansell Color	SO	IL DESCRIPTION AND	DRILLING	REMARKS	
<u> </u>	588€		П		П	ПП		<del></del>		Asphalt, 2"				
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BORIN		CATION		) E4	A							Boring Name ——	3A-1	
DRILL	ING	ompan	ΙΥ		A					DRILLER Je	.er	Project Name	DAC	C-6 Parcel A Phase II
DRILL	ING:	regg I	) (S)							DRILL BIT	(C) C17F	_	95401	
DEPTH	OT	IMCC WATER								6	in.	Project Number ELEVATION		TOTAL DEPTH
LOGGI	1	lot En	counte	rec	1							DATE STARTED		26.5 ft.  DATE COMPLETED
	MPL	L Knig	ht	_		_		_				3/26/96		3/26/96
		Hend Space Keading (mg/f.)	Depth (feet)		Là	tholo	er		USCS Log	Munsell Color		IL DESCRIPTION AND	DRILLING	REMARKS
-			5-	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\				X 	ML		Concrete, 6 inches Background OVM: 0.0 ppm  Sandy SILT: light brown, fi		oist	
- -			1 1 1								Bottom of Machine Pit A			
		i	10-						ML					-
-			15-						ML		- - 		·	- - 
			<b>20</b> - - - -						ML		SILT: brown, with clay and	sand, soft, slightly moist		
			25- -						ML		-			
			30- - - 35- - - 40-				_				Boring Completed at 26.5	feet.		
		ļ	-											

Kennedy/Jenks Consultants

Boring Log
BORING LOCATION

BOKING		CATION uildin		Pit A	4							Boring Name	3A-2		
DRILLIN	NG (	OMPAN regg I	ΙΥ						.,	DRILLER	eff	Project Name	DAC	C-6 Parcel A	Phase II
DRILLIN	NG I	METHOI	(S)							DRILL BIT	(S) SIZE	1 .	9540	19.01	
DEPTH T	ΤÖΊ	IMCO WATER									in.	Project Number -		TOTAL DEPTH	26.5 ft.
LOGGEI		ot En	counte	ered	<u> </u>							DATE STARTED		DATE COMPLETED	
SAM	K	. Knig	ht									3/26/96			3/26/96
Driven Recovered	Collected	Nond Space Reading (mg/l.)	Depth (feet)		Lid	holog	Ø		USCS Log	Munseil Color		DIL DESCRIPTION AND	DRILLIN	G REMARKS	
-	<b>***</b>		5-	X	<b>*************************************</b>		<b>X</b>	X	ML 		Concrete, 6 inches Background OVM: 0.0 ppi  Sandy SILT: light to mediu		o slightly n	noist	-
-	××		- - 10-						ML		- Bottom of Madnike I it A				
-	***		15						ML						
-	<b>**</b>		20						ML		Clayey SILT: brown, sligh	tly moist, firm			-
-	<b>**</b>		25				#		SM		Silty SAND: light brown,	fine, loose, dry to slightly	moist		-
			35								Boring Completed at 26.	5 feet.			

BORING LOCATION  Outside Building 37, adjacent to pit B	Boring Name 3B-2
DRILLING COMPANY DRILLER	Pete Project Name DAC C-6 Parcel A Phase II
DRILLING METHOD (S)  DRILL BI	T (5) S17E
DEPTH TO WATER	in. Project Number 954019.01  ELEVATION TOTAL DEPTH  34 ft.
Not Encountered LOGGED BY	DATE STARTED DATE COMPLETED
J. Knight	
B p p p p p p p p p p p p p p p p p p p	SOIL DESCRIPTION AND DRILLING REMARKS
E 2 3 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Asphalt, 2"
·           -	
-	
·	
·        ]	
5	Clayey SILT: very dark gray brown, some very fine sand, slightly moist, trace of gravel
	Bottom of Machine Pit B
	<b>.</b>
	<b>†</b>
-     10-        <sub>ML</sub>	brown, decreasing clay
	†
15-	
<mark>┈┈</mark> │ ┃ <del>┃┃┃┃┃┃┃┃</del>	
	Sandy SILT: brown, very fine sand, slightly moist
<b>                                      </b>	· ·
-       20-	†
-	<u> </u>
1 111111111111111111111111111111111111	pods of gray clay
	ļ
-           <sub>ML</sub>	increasing clay content
	ļ · · ·
- 30-	<u> </u>
-	1
	<u>†</u>
-	decreasing clay
-       35-	
	Boring Completed at 34 feet.
	-
-   40-	}
	<u>†</u>

Boring L							пепулленк		
BORING LOCATIO	N e Bnild	ling 37, adjacen	t to pit C	!		Boring Name —	3C-1		
DRILLING COMPA	NY			DRILLER Pe	ta	Project Name	DAC C-6	Parcel A	Phase II
Manes DRILLING METHO	D(S)			DRILL BIT	(S) SIZE	-	954019.0		
Geopre DEPTH TO WATER	obe			2 1	n.	Project Number - ELEVATION		L DEPTH	
Not En	counte	ered				DATE STARTED	DATE	COMPLETED	36 ft.
LOGGED BY  J. Knig	ght					4/2/96			4/2/96
SAMPLES	1	V 14 -1	USCS Log	Munsell Color	80	IL DESCRIPTION AND	DRILLING REA	MARKS	
Driven Recovered Collected Head Space Reading (mg/l.)	(feet)	Lithology	Log	Color		ie descri non inc			
D & O ESES		mmmm.			Asphalt, 2"				_
	-				-				
	-				-				
	-				-				
	-				-				
	5-								
	-				Bottom of Machine Pit C				
	-				•				_
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	10-		CL		Silty CLAY: brown, trace of	f very fine sand, slightly	moist		
	-				_				_
	-				_				_
	-								
	آء ا								
	15-		ML		Sandy SILT: brown, very fi	ne to fine sand, slightly n	noist		
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	20-		ML		_				_
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	١.		$L_{-}L$						
	25-				•		• • • •		4
	25		CL		Silty CLAY: mottled dark a	na light brown, slightly i	moist, trace of ver	y nne sand	_
					-				-
					-				-
	.		$\lfloor                   $						
	30-				-				-
	".		ML	!	Clayey SILT: brown, trace	of very fine sand, moist			4
	.				-				_
									_
			lacksquare						
	35-			·			41		_
			ML		Sandy SILT: brown, very fi	ne sand, some clay, sligh	iny moist		
	.	1			-				-
		]			-				-
	1 .	1	]		Boring Completed at 36 fo	eet.			-
	40-	1			•				-
	".				_				4
	1.	]							-

Boring Log	Actinedy/octiks Consultation									
BORING LOCATION  Outside Building 37, adjacen	t to pit C		Boring Name	3C-2						
DRILLING COMPANY	DRILLE	R Pete	Project Name	DAC C-6 Parcel A Phase II						
Maness DRILLING METHOD (S)	DRILL	BIT (S) SIZE	7	954019.01						
Geoprobe DEPTH TO WATER		2 in.	Project Number -	TOTAL DEPTH						
Not Encountered			DATE STARTED	36 ft.						
LOGGED BY  J. Knight			4/3/96	4/3/96						
SYMMER S  Recovered by Specific S  Specific S  Specific S  Specific S  Specific S  Doubth ((icet)   Doubth (icet)   Doubth (ic	USCS Manuell Log Color	so	OIL DESCRIPTION AND	DRILLING REMARKS						
Drive Colle Head Space (mg/f)		Asphalt, 2"								
	1	Aspiiais, 2		-						
		-		-						
		-		-						
				-						
-     5-				-						
		Bottom of Machine Pit C		-						
		-		-						
				4						
			حدمد و مر							
5.6	ML	Sandy SILT: brown, very f	tine to fine sand, slightly i	moist -						
		_		_						
				_						
6.2 15	ML	[		_						
				_						
				_						
6.3 20	SM	Silty SAND: brown, very	fine to fine, slightly moist							
	<u> </u>									
6.1 25-	ML	Sandy SILT: brown, very t	fine to fine sand, slightly	moist						
		<u> </u>		1						
				1						
	+									
6.0 30-		<u> </u>	at taken to							
<del>                                      </del>	ML	Clayey SILT: dark brown,	slightly moist, some very	rine sand -						
		t		1						
		<u> </u>		1						
6.3 35-	ML	Sandy SILT: brown, very	fine to fine sand, slightly:	moist						
			, 5 3							
		-		-						
		}	-	4						
		Boring Completed at 36	feet.	<del>-</del>						
40-		}		-						
		1		4						
		1								

DU	Ш	ıg L	og_							IXCIII	ied y/o	enks Consi	
BORIN	iG L	ocation Buildin	o 37. s	d iace	nt to	nit I	D		I	Boring Name ——	3D-1		
DRILL	ING	COMPA	ĪΥ					DRILLER Pe	to F	Project Name	DAC	C-6 Parcel A	Phase II
DRILL	ING	Maness METHOL	(S)					DRILL BIT	S) SIZE	Project Number _	95401		
DEPTI	H TC	Geopro WATER						2	n. EL	EVATION		TOTAL DEPTH	34 ft.
LOGG		Not En	counte	red					DA	TE STARTED	v.	DATE COMPLETED	
	AMPI	J. Knig	ht							4/3/96			4/3/96
			Depth (feet)	Li	thology		USCS Log	Munsell Color	SOIL	DESCRIPTION AND	DRILLING	REMARKS	
Driven	3	Head Space Reading (mg/L)		***		**			Concrete, 4"				
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			-						<b>-</b>				Ī
-			5-						•				
			-	·HHH	++++				Bottom of Machine Pit D				
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			10-						-				-
			10						-				-
			_						<del>-</del>				_
		5.2	_				ML		Sandy SILT: brown, very fine	sand, trace of clay, slig	tly moist		-
		*	_			Ш							-
			15-			Ш			-				
			_			Ш							-
XXXX	,		-										-
	▓	6.0	-				ML		light brown				
***	8	1	-						_				]
<b>!</b>			20-						•				
			-						-				_
<b>***</b>	8		-			Ш	ML		some clay, moist				-
	8	6.3					MIL		- some clay, moist				-
	٦		25-						_				-
			<b>-</b>						-				-
XXI.			-						A &				-
	▓	6.1	-				ML		trace of clay				-
		×	-						-				-
			30-										-
			-										4
***	XX		-						-				1
	▓	6.4	-				ML		increasing clay				
	**	+	<u> </u>	ш	шШ	ш							
			35										-
				]					-				-
									Boring Completed at 34 feet	Ŀ			-
			.						-				-
			40-						}				-
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Building 37, Pit D  DRILLING COMPANY  Gregg Drilling  DRILL BIT (S) SIZE  SIMCO 5000  DRILL BIT (S) SIZE  SIMCO 5000  DEPTH TO WATER  Not Encountered  LOGGED BY  K. Knight  DRILL BIT (S) SIZE  Froject Number  ELEVATION  DATE STARTED  JATE COMPLETED  A726/96	ng Log		
DEBLIANC COMPANY Creege Defilling SINCO 5000  DELL BY (9) SIZE SINCO 5000  SIN	LOCATION	Boring Nam	e3D-2
ORLING OFFINO SOME  ORTHOGOSOM  OFFIN TO WATER  NE Encountered  LOCATED W. K. Knelpht  Concrete, 6 inches  Background OVM: 0.0 ppm  Sandy SILT: dark brown, with minor clay, firm, slightly moist  Bottom of Machine Pit D  10  10  115  ML  SILT: brown, soft, dry to slightly moist  SILT: brown, with minor sand, soft, dry to slightly moist  SILT: light brown, with minor sand, soft, dry to slightly moist	G COMPANY	DRILLER	DACCC (Describe Dhose II
SIMC U 500  DEPTH TO WATER  DATE STARTED  JAZON STATE D  JAZON SOIL DESCRIPTION AND DRILLING REMARKS  Concrete, 6 inches  Background OVM: 0.0 ppm   Sandy SILT: dark brown, with minor clay, firm, slightly moist  Bottom of Machine Pft D   SILT: brown, soft, dry to slightly moist  SILT: brown, soft, dry to slightly moist  SILT: light brown, with minor sand, soft, dry to slightly moist		DDU I DET (O CIZE	
Not Encountered  LOGGED BY  K. Kalpht  Took  Likeling  Took  Likeling  Likel	SIMCO 5000	6 in. Project Nun	TOTAL DEPTH
DATE STATES   DATE CONT.   DA	O WATER Not Encountere	a	26.5 ft.
SOIL DESCRIPTION AND DRILLING REMARKS    Soil   Description   Descriptio	BY	DATE STARTED	• • • • • • • • • • • • • • • • • • •
Background OVM: 0.0 ppm  Sandy SILT: dark brown, with minor clay, firm, slightly moist  Bottom of Machine Pit D  ML  SILT: brown, soft, dry to slightly moist  20  CL  Silty CLAY: dark brown, firm, moist  SILT: light brown, with minor sand, soft, dry to slightly moist	27.55		
Background OVM: 0.0 ppm  Sandy SILT: dark brown, with minor clay, firm, slightly moist  Bottom of Machine Pit D  ML  SILT: brown, soft, dry to slightly moist  20  CL  Silty CLAY: dark brown, firm, moist  SILT: light brown, with minor sand, soft, dry to slightly moist	Signal Control of the control of the		
Bottom of Machine Pit D  ML  SILT: brown, soft, dry to slightly moist  ML  Silty CLAY: dark brown, firm, moist  SILT: light brown, with minor sand, soft, dry to slightly moist		Background OVM: 0.0 ppm	
20 CL Silty CLAY: dark brown, firm, moist  SILT: light brown, with minor sand, soft, dry to slightly moist	*   3   1   1   1   1   1   1   1   1   1	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	
20 CL Silty CLAY: dark brown, firm, moist  SILT: light brown, with minor sand, soft, dry to slightly moist	<b>№</b> 10-	ML SILT: brown, soft, dry to slightly moist	-
25 ML SILT: light brown, with minor sand, soft, dry to slightly moist	15-	- · ·	- - - -
	20- E	CL Silty CLAY: dark brown, firm, moist	
Boring Completed at 26.5 feet.	25-	ML SILT: light brown, with minor sand, soft, do	y to slightly moist
	35-	Boring Completed at 26.5 feet.	

			g Lo				_					Kennedy/Jenks Consultants							
BOR	ING	LO B	CATION uilding	37. a	d iac	cen	t to	pi	it E	;		Boring Name 3E-1							
DRII	LIN	IG C	OMPAN Ianess	Y							DRILLER P	Project Name DAC C-6 Parcel A Phase II							
DRII	LIN	IG N	METHOL eopro	(S)							DRILL BIT	(S) SIZE In Project Number 954019.01							
DEP	TH T	ro v	VATER ot Enc									ELEVATION TOTAL DEPTH 26 ft.							
LOG	GEI	) B)	r		reu							DATE STARTED DATE COMPLETED  4/3/96 4/3/96							
		PLE							1										
Driven	covered	lected	Hond Space Reading (mg/L)	Depth (feet)		Lith	ology	,		USCS Log	Mansell Color	SOIL DESCRIPTION AND DRILLING REMARKS							
ă	2	: ت	₹ <b>₩</b> ₩.5		<del>M</del>	M	AA	M	짂			Concrete, 4"							
				1						. 1									
						III			III										
					Ш	Ш	Щ	Ш	Ш			Aprroximate Bottom of Machine Pit E							
▓	❈	×	6.2	5-	Ш							Clayey SILT: dark brown, trace of very fine sand, dry							
▓	ቖ	▩		٦	Ш			$\ \ $	Ш	ML		Clayey Silli. daik brown, trace of very line said, day							
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▓	▓	▓	6.5	10-	Ш		$\  \ $		Ш	ML		brown, slightly moist							
***	**			-	Ш			Ш	Ш										
					Ш		Ш	Ш											
-		١			Ш		Ш	$\  \ $											
<b>※</b>	❈	<b>x</b>	7.0	15-				Ш				4							
▓	▩	▩	7.0	13	Ш		Ш			ML		increasing sand content							
							Ш	Ш				ļ							
-	-			-			Ш	Ш				}							
	888			-			Ш	Ш				dark brown, trace of sand							
▓	▓	▩	6.9	20-						ML		dark brown, trace of sand							
***	88			-				Ш											
-				-								<u>†</u>							
				-				Ш											
×	▩					$\parallel$	$\dagger \dagger \dagger$	Ш	Ш	l – t									
▓	▩	▩	6.3	25-	Ш		Ш	Ш	Ш	ML		Sandy SILT: brown, very fine to fine, slightly moist							
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-				30-								Boring Completed at 26 feet.							
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BORI	NG L	CATION Buildin	a 37. s	dio	Cer	nt fo	n#	E			Boring Name —	3E-2				
DRIL	LING	COMPA	ΙΥ	iu ja	CCII	ii w	pic	<u>E</u>	DRILLER	ete	Project Name	DAC	C-6 Parcel A Pha	se II		
DRIL	LING	Maness METHOI	(S)						DRILL BIT	(S) SIZE	Project Number	95401				
DEP	TH TO	Geopro Water								in.	ELEVATION		TOTAL DEPTH 26 ft.			
LOG	GED E	Vot En	counte	red	<u> </u>						DATE STARTED		DATE COMPLETED			
	SAMPL	l. Knig	ht					7	т	<u> </u>	4/3/96		4/3/96			
Driven	ollected	Head Space Reading (mg/L)	Depth (feet)		Lith	ology	•	USCS Log	Mansell Color	so	IL DESCRIPTION AND	DRILLING	REMARKS			
۵	* 10	# SA K.E		M	M	M	M	1		Concrete, 4"						
			1							_				-		
*	<b>.</b>									Aproximate Bottom of Mac						
▓	▓፝	4.7	5-					ML		Sandy SILT: dark brown, vo	ery fine sand, slightly mo	ist, some cla	у			
		5.4	10-											-		
▓	▓₩	3.4	10-				Ш	ML		light brown, dry				-		
-		5.6	-										-	-		
▩		3.6	15-	Ш				ML		light to dark brown, dry						
-		5.1	20-					ML		light brown, very fine to fir	ne sand, dry					
	, ,		-							[				-		
		5.1	25-					ML		light brown to gray, trace o	f clay, dry	41				
	X		30-			•				Boring Completed at 26 f	eet.					
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BORING LOCATION  Building 3	27 D# F			Boring Name ——	3F-1	
DRILLING COMPANY		DRILLER <b>Je</b>	er .	Project Name	DAC	C-6 Parcel A Phase II
Gregg Dri DRILLING METHOD (S	(S)	DRILL BIT	(C) C1717	1 -	954019	
SIMCO 50 DEPTH TO WATER		61	Jr.	Project Number		TOTAL DEPTH  26.5 ft.
Not Encor				DATE STARTED		DATE COMPLETED
K. Knight	t			3/26/96	<u></u>	3/26/96
	Depth Lithology	USCS Munacii Log Color		IL DESCRIPTION AND I	DRILLING	REMARKS
-	-		Concrete, 6 inches Background OVM: 0.0 ppn			-
	5-	ML	Sandy SILT: brown, fine, so	oft, slighly moist		
	-		Bottom of Machine Pit F			- - 
	10-	SM	Silty SAND: light brown, f	ine, dry to slighly moist		
	15-	SM				
	20-		SILT: brown, with minor sa	and, firm, slightly moist		
-	25	SM	Silty SAND: light brown, f	ine, loose, dry to slighly m	oist	
	35-		Boring Completed at 26.5	i feet.		

buring Lu	5							
BORING LOCATION	27 D	24 TC				Boring Name —	3F-2	
Building DRILLING COMPANY	<u>3/. P</u>	n r		DRILLER		_	DAC	C-6 Parcel A Phase II
Gregg Di	illing	L		Jei DRILL BIT (	N 5175	Project Name		
DRILLING METHOD ( SIMCO	(S) <b>5000</b>			6 i	n.	Project Number	<u>95401</u>	
DEPTH TO WATER						ELEVATION		TOTAL DEPTH 26.5 ft.
Not Enco	unte	red				DATE STARTED		DATE COMPLETED
K. Knigh	it					3/26/96		3/26/96
SAMPLES	Depth (feet)	Lithology	USCS Log	Munsell Color	SOI	IL DESCRIPTION AND 1	DRILLING	REMARKS
2 % 2 425		******			Concrete, 6 inches			
-	5-		ML	-	Background OVM: 0.4 ppm  Sandy SILT: brown, fine, fire		ain and odd	or at top of 5-foot sample
	- - - 10-		ML		Bottom of Machine Pit F			
	15-		SM		Silty SAND: light brown, fi	ine, loose, dry to slightly n	noist	- - - 
-	20-		CL		Silty CLAY: dark brown, fu	rm, slightly moist		
	25-		SM		Silty SAND: light brown, fi	ine, loose, dry to slighly m	noist	
	30-				Boring Completed at 26.5	feet.		
<b>⊪</b>	-				<del>-</del>			

BORING LOCA	TION							,	3F-3	
Buil DRILLING COM	Iding 3	7, P	t F			DRILLER		Boring Name ——		C-6 Parcel A Phase II
Gre	gg Dri	lling				Je DRILL BIT	ff CO STZE	Project Name		
DRILLING MET	THOD (S 1 <b>CO 5</b>	) 0 <b>00</b>				6 DKILL BIT		Project Number _	95401	
DEPTH TO WAT	TER Encor			*************				ELEVATION		TOTAL DEPTH 26.5 ft.
LOGGED BY			cu					DATE STARTED 3/26/96		DATE COMPLETED 3/26/96
SAMPLES	Knight	1			<u> </u>					
Driven Recovered Collected Head Space	Reading (mg/L)	epth ect)	Litholog	Ø7	USCS Log	Munsell Color		IL DESCRIPTION AND	DRILLING	REMARKS
		Ţ				i	Concrete, 6 inches Background OVM: 0.0 ppn	ı		-
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		J					-			-
	l	اے						1 6 6	41	-
		5			ML		Sandy SILT: light to mediu	m brown, time, timi, sagu		
<b>********</b>							Bottom of Machine Pit F			_
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		$\begin{bmatrix} 1 \end{bmatrix}$					-			-
		10			ML	!	-			- -
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		15			ML		dry and loose			- -
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t		1								_
F		- 1								
-		1		m	CL		Silty CLAY: brown, firm, s	lightly moist		-
	-	20-			3					-
		1			1					-
		1			1					-
		1			1					
		1			ML		Sandy SILT: light to mediu	ım brown, fine, firm, sligh	ntly moist	
	1	25-			""		January January 10 miles	,,	-	· -
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┞╽╽╽		-					Boring Completed at 26.5	5 feet.		
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BORING I	D.	CATION uildin	37 -	dia	Cor	nt f	to r	jt (	3			Boring Name —	3G	
DRILLING	3 C	OMPAN aness	ľΥ	id je	icc.	184 4	<u>~ p</u>	220.	·	DRILLER Pe	ete	Project Name	DAC	C-6 Parcel A Phase II
DRILLING	3 M	ETHOL	(S)		_					DRILL BIT	(S) SIZE	Project Number _	95401	
DEPTH TO	ΟV	eopro /ATER									41.	ELEVATION		TOTAL DEPTH  26 ft.
LOGGED	BY	ot Enc		red	_							DATE STARTED		DATE COMPLETED
SAMP	LES	Knig	nt	r -		_						4/3/96		4/3/96
Driven Recovered	Louden	Space Reading (mg/L)	Depth (feet)		Lie	bolo	<b>87</b>		USCS Log	Manueli Color		L DESCRIPTION AND	DRILLING	REMARKS
	T		,	Î	M	Î	M	ÎĤ			Concrete, 4"			-
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			-	╟	╟	#	₩	HH	ļ		Approximate Bottom of Ma	chine Pit G		
		4.2	5-	Ш			Ш	Ш	ML		Clayey SILT: mottled brown		low plastici	ty
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			10-	$\ \ $					ML		Sandy SILT: brown, very fir	ne to fine sand, slightly m	noist	
223222	١		-		Ш	Н	$\  \ $	Ш			-			
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	8	5.2	15-	Ш	Ш		Ш	Ш	ML		some clay, dry			_
			-	Ш	Ш	$\ $	Ш	Ш						_
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	1			$\parallel\parallel$	Ш	II	Ш							-
‱.	×				Ш		Ш		ML		no clay, dry, very fine to fin	e sand, firm		-
	8		20-	$\ \ $		H	Ш	Ш						-
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			]		$\  \ $		$\  \ $				_			-
	젫	5.0	25-				$\ \ $				A a6 -1 4			-
	8			Щ	Ш	Ш	Ш	Ш	ML		trace of clay, dry			
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BORIN	iG LC	CATION				24				Boring Name	3H		
DRILL	ING	Building COMPAN	<u>737. s</u> Y	djace	ent to	o pu	н	DRILLER				C-6 Parcel	A Phase II
	N	<b>Maness</b>						DRILL BIT	ete (S) SIZE	Project Name			1 I nasc II
	(	METHOE Geopro	be					2	in.	Project Number _ ELEVATION	95401	TOTAL DEPTH	
DEPTH	TO	WATER Not Enc		mad									26 ft.
LOGGI	ED B	Y		icu						DATE STARTED 4/3/96		DATE COMPLETED	4/3/96
SA	MPLE	. Knig	ıt				1						43/70
E M	臣	Head Space Reading (mg/f.)	Depth (feet)	L	itholog	B3'	USCS Log	Muneti Color	so	IL DESCRIPTION AND	DRILLING	REMARKS	
Rec P	3	Spac Read (mg/		<del>, , ,</del>		× × .	<u>,                                    </u>		Concrete, 4"				
			_		III	Ш			Concrete, 4				-
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			_				§		Approximate Bottom of Pit				4
	쬃	5.7	5				CL		Silty CLAY: dark brown, sl	ightly moist, low plastici	ty		4
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	₩	6.1	10-				ML		Clayey SILT: light brown, o	<b>lr</b> y			
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BORING LOCAT	TION		14 T					Boring Name	3I-1		
DRILLING COM	ding 3 PANY gg Dri						DRILLER Je	er	Project Name	DAC	C-6 Parcel A Phase II
DRILLING MET	HOD (S	)					DRILL BIT	(S) SIZE	Project Number _	95401	
DEPTH TO WAT	ICO 5								ELEVATION		TOTAL DEPTH 26.5 ft.
LOGGED BY	Encor		ea						DATE STARTED 3/25/96		DATE COMPLETED 3/25/96
SAMPLES .	Knight	epth	Li	Lithology USCS Log			Munsell Color	SO	IL DESCRIPTION AND	DRILLING	
Collect Space	20	-	****					Concrete, 6 inches Background OVM: 0.0 ppm	,		
-		5-				ML		Background OVM: 0.0 ppm  Sandy SILT: brown, fine, fire			·
		-	$\ \cdot\ _{L^{2}(\mathbb{R}^{N})}$	4444	$\ \ \ $			Bottom of Machine Pit I			
		10-				ML		Pouoii oi Maciline Pit I			- - - - - -
		15-				ML		- - - - - -			- - - 
-		20 <del>-</del>				CL		Silty CLAY: brown, firm, n	ninor fine sand, slightly n	noist	- - 
		25-				ML		Sandy SILT: light brown, fi	ne, firm, dry to slightly r	noist	-
		30- 35- 40-						Boring Completed at 26.5	feet.		

BORING LOCATION	8				Boring Name 3I-2			
Building DRILLING COMPAN	37. P	rit I		DRILLER		_		C-6 Parcel A Phase II
Gregg I	<u>rillin</u>	£		Jef DRILL BIT (S	T SIZE	Project Name		
DRILLING METHOD SIMCO	500 <u>0</u>			6 in	n.	Project Number	95401	9.01 TOTAL DEPTH
DEPTH TO WATER  Not En						ELEVATION		26.5 ft.
LOGGED BY			<del></del>			DATE STARTED 3/25/96		DATE COMPLETED 3/25/96
K. Knig Samples	ht							
Driven Recovered Collected Head Space Roading (mg/L)	Depth (feet)	Lithology	USCS Log	Mansell Color		IL DESCRIPTION AND I	DRILLING	REMARKS
-	5		SM	- - - -	Concrete, 6 inches Background OVM: 0.0 ppm Silty SAND: light brown, fi		oorly grad	- - - - ed
-	1 1 1				Bottom of Machine Pit I	- 		
-	10- - -		ML	- - -	Sandy SILT: brown, with m	ica, soft, slightly moist		• •
	15- - - -		ML	- - - -	·			- - - -
-	20-		ML ML		Clayey SILT			
					_			_
	30- -				Boring Completed at 26.5	feet.		- - - - - - - -
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	SORING LOCATION 2.T.1											
		Buildin	g 37, I	Pit J		- T		Boring Name ——	3J-1			
DRILI		COMPAN		•		DRILLER Je	eff	Project Name	DAC	C-6 Parcel A Phase II		
DRIL	INC	METHO	(S)			DRILL BIT	(C) C17T	Project Number	95401	9.01		
DEPT	н тс	HSA M WATER	obile	B-53		1 0	in.	Project Number — ELEVATION		TOTAL DEPTH 26.5 ft.		
LOGO		Not En	counte	red				DATE STARTED		DATE COMPLETED		
		S. Bartl	ing					3/26/96		3/26/96		
	AMP	Head Space Space Reading (mg/L)	Depth (feet)	Lithology	USCS Log	Munsell Color	son	IL DESCRIPTION AND	DRILLING	G REMARKS		
-		KXXX	5-				Concrete brown clay, fill PID: 4.5 ppm at hole, 4.6 pp  Bottom of Machine Pit J			-		
- - - - - -	× × ×	pood	15		CL/ML 	2.5Y4/4  2.5Y5/4	- Silty CLAY/Clayey SILT: o					
- -			20		CL/MI	2.5Y4/4	Silty CLAY/Clayey SILT: o					
		×	25		ML	2.5Y5/6	Clayey SILT: light olive bro	own, soft, friable, dry		-		
			30° 35°				Boring Completed at 26.5	feet.				

	RING LOCATION 31.7											
BORING	LOCATIO Buildi		p:	<b>4</b> .1	ľ						Boring Name3J-2	
DRILLIN	G COMPA	NY					_			DRILLER	DACC 6 Parcel A Phase II	
	Gregg	Drilli	ng							DRILL BIT	<u> </u>	
DRILLIN	G METHO HSA !	DD (S) Makila	R	_5	2						in Project Number	
<b>ДЕРТН Т</b>	O WATER	TOPHE									ELEVATION TOTAL DEPTH  26.5 ft.	
	Not E	coun	ter	ed	<u> </u>						DATE STARTED DATE COMPLETED	
LOGGED	BY S. Bar	tlino									3/25/96 3/25/96	
SAMI	ZES .	Depth	T		Lit	holo	ey.		USCS Log	Mumeli Color	SOIL DESCRIPTION AND DRILLING REMARKS	
Priven Recov	See de la	<u> </u>	Ļ								0	
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		3	ן'		Ш	Ш	Ш		ML	2.5Y4/3	Clayey SILT: light brown to olive brown, soft, with firm patches	
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XXXX	]	10	1	H	HH	╁	₩	╫	∦		Bottom of Machine Pit J	
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*****	523		ļ		Ш	Ш	$\ \ $	Ш		2.5Y5/4	Clayey SILT: light olive brown, firm, dry, hard and darker in spots	
										2.515/4	Clayey SIL1. light office of own, film, wy, nad with dather at sport	
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‱.		15	7	Ш	Ш	Ш	Ш	Ш	ML	2.5Y5/6	Clayey SILT: light olive brown, soft to firm, less clay, more firm in patches with more clay, dry	
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	Boring Log Renneuy/Jenks Consultants															
BOR		OCATION Buildin		DH K					Boring Name —	ing Name <u>3K-1</u>						
DRIL	LING	COMPAN	ĪΥ				DRILLER		Project Name	DAC C-6 Parcel A Phase II						
DRIL	LING	Gregg I	Orillin O(S)	<u> </u>			DRILL BIT	(S) SIZE	-	95401						
		HSA M	obile	B-53			6	in.	Project Number - EVATION	73401	TOTAL DEPTH					
DEPT	гн тс	WATER Not En	count	ered			_					26.5 ft.				
LOG	GED I	BY						Di	ATE STARTED 3/25/96		DATE COMPLETED	3/25/96				
	SAMP	S. Bartl								<u> </u>						
€ .	g g	Head Space Reading (mg/L.)	Depth (feet) Lithology			USCS Log	Mansell Color	SOIL DESCRIPTION AND DRILLING REMARKS								
Ě	<u> </u>	Space (	_	****		***		****				Concrete, 6-8 inches				
	١			MMM .	M	CL	10YR3/3	dark brown clay, soft				-				
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						CL	2.5Y5/4	Silty CLAY: light olive brown	ı, gritty, soft to firm, n	onplastic, dr	y, mottled yellow	1				
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	▓	8	"			ML	2.5Y6/4	Clayey SILT: light yellow bro	wn, son, ary							
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*	፟	ا	20			ML	2.5Y6/4	Clayey SILT: as above, more	firm							
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			25		HH	 CL	2.5Y5/3	Silty CLAV: light clive brown	firm nonnlastic dev							
	▓	8	~			Lr	2.313/3	Silty CLAY: light olive brown, firm, nonplastic, dry								
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								Boring Completed at 26.5 fe	eet.			_				
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BORI	NGL	ocation Buildin	37 ]	P# 12				Boring Name —	3K-2						
DRIL	LING	COMPAN	1Y			DRILLER		Project Name	DAC C-6 Parcel A P	hase II					
DRIL	LING	Gregg I	Orillin O(S)	18		Je DRILL BIT	(S) SIZE	-	954019.01						
		HSA M WATER	obile	B-53		6	in	Project Number -	TOTAL DEPTH						
		Not En	count	ered				DATE STARTED	DATE COMPLETED	i.5 ft.					
LOGO	GED I	<sub>BY</sub> S. Bartl	ling					3/26/96		26/96					
	AMPI	ES			USCS	Muneell	503	T DESCRIPTION AND	D DRILLING REMARKS						
Driven	ollecte	Head Space Reading (mg/L.)	Depth (feet)	Lithology	USCS Log	Mamell Color	501	L DESCRIT HOW FUND							
	10	INKO		XXXXXX			Concrete, 6-8 inches light brown clay fill								
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		*	10		<b> </b>		Bottom of Machine Pit K	,							
	***	Ä	'		, l	0.537476	- Silty CLAY: olive brown, fi	em to hand day nonal-se	atic						
			-		CL	2.5Y4/6	- Silty CLAY: office brown, In	rm to nard, dry, nonplast	Suc						
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***	X		15.		ML	2.5Y5/4	Clayey SILT: light olive bro	wn, soft, friable, dry, wi	rith light tan, hard inclusions (5%)						
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	<b>X</b>		20		CL	2.5Y4/4	Silty CLAY: olive brown, so	oft to firm, dry, nonplasti	tic						
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	<b>X</b>		25	][[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[[	ML	2.5Y4/4	Clayey SILT: olive brown, s	oft, friable, dry							
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BORING LOCATION		Boring Name ——	3L-1					
Didibilito Comitett	DRILLER Jeff	Project Name	DAC	C-6 Parcel A Phase II				
	DRILL BIT (S) SIZE	Project Number	95401					
SIMCO 5000 DEPTH TO WATER	6 in.	ELEVATION		TOTAL DEPTH 26.5 ft.				
Not Encountered LOGGED BY		DATE STARTED	A	DATE COMPLETED 3/25/96				
K. Knight		3/25/96						
Bank of the state	Munecii Color SOI	IL DESCRIPTION AND	DRILLING	REMARKS				
A Z S Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z	Concrete, 6 inches Background OVM: 0.0 ppm			-				
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∞ 5-        <sub>ML</sub>	SILT: brown, minor sand an	d clay, firm, slightly mois	t	-				
	Bottom of Machine Pit L							
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10   10   ML				_				
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15-      <sub>ML</sub>	Sandy SILT: brown, fine, so	oft to firm, slightly moist		-				
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20-]          <sub>ML</sub>	Clayey SILT: brown, firm, s	slightly moist		-				
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25-13-13-13-13-13-13-13-13-13-13-13-13-13-	Silty SAND: light brown, fi	ine, loose, dry to slightly r	noist	-				
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30-	Boring Completed at 26.5	feet.		-				
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		g L												CHILD CONSTITUTION			
BORIN	IG LI	CATION Building	37. F	Pit I.	,							Boring Name —	3L-2				
DRILL	ING	COMPAN	Y						DRILL	ER Je	Are:	Project Name	DAC	C-6 Parcel A Phase II			
DRILL	ING	Gregg D	rillin (S)	<u>g</u>					DRILI	Je BIT (	(S) SIZE	•	95401				
		SIMCO	5000							<u>6 i</u>	in.	Project Number . ELEVATION	73401	TOTAL DEPTH			
DEPTH	OT I I	WATER Not Enc	ounte	red										28 ft.			
LOGG	ED B	Y										DATE STARTED 3/25/96		DATE COMPLETED 3/25/96			
SA	MPL	K. Knig		-				Т	T								
Driven Recovered	Collected	Head Space Reading (mg/L.)	Depth (feet)		Lith	ology		USCS Log	Manuell Color			IL DESCRIPTION ANI	DRILLING	G REMARKS			
				m	衎	綵	m	9		ļ	Concrete, 6 inches Background OVM: 0.0 ppm	ı		-			
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		5-          <sub>ML</sub>							İ		Sandy SILT: brown, fine, soft, dry to slightly moist						
	▩										Bottom of Machine Pit L						
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											Boring Completed at 28 fe	eet.		_			
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Boring Lo							redy/Jenks Consultants			
BORING LOCATION	37, Pit M	T				Boring Name	3M-1			
DRILLING COMPAN	Y			DRILLER Je	~	Project Name	DAC C-6 Parcel A Phase II			
Gregg I DRILLING METHOL	(S)	<u>.,,</u>		DRILL BIT (	S) SIZE	Project Number	954019.01			
HSA MODEPTH TO WATER	obile B-53			6 i	n.	ELEVATION	TOTAL DEPTH			
	ountered		· · · · · · · · · · · · · · · · · · ·			DATE STARTED	28 ft.  DATE COMPLETED			
S. Bartl	ing					3/26/96	3/26/96			
Driven Recovered St. Collected Space Space Reading (mg/l.)	Depth (feet)	Lithology	USCS Log	Munucil Color		IL DESCRIPTION AND	DRILLING REMARKS			
	5-		ML		Concrete, 6 inches light brown clay fill  Clayey SILT/Silty CLAY: li	ight olive brown, soft				
-	10-		CL	2.5Y4/4	Bottom of Machine Pit M  Silty CLAY: olive brown, h	- -				
	15-		 ML	2.5Y5/4	Clayey SILT: light olive brown, soft, friable, dry PID: 4.2 ppm at hole					
-	20-		CL	2.5¥4/4	Silty CLAY: olive brown, s	oft to firm, dry				
	25-		ML	2.5Y5/4	Clayey SILT: light olive bro	own, soft, dry	-			
	30-				Boring Completed at 28 fo	eet.				
	35-				-		- - -			
	40- -									

Kennedy/Jenks Consultants **Boring Log** BORING LOCATION

Building 37, Pit M

DRILLING COMPANY 3M-2 Boring Name DRILLER DAC C-6 Parcel A Phase II Project Name \_ Gregg Drilling

DRILL	ING	Gregg I METHOL		K				DRILL BIT	eff (S) SIZE	Project Name	54019.01
l	]	HSA M	obile ]	B-53				6	in.	Project Number 95	TOTAL DEPTH
DEPT	H TO	WATER.								ELEVATION	26.5 ft.
LOGG	EDE	Not Ene	ошпи	rea						DATE STARTED	DATE COMPLETED
		S. Bartl	ing				<b>.</b>			3/26/96	3/26/96
Driven Becovered to	E SE	Head Space Space Reading (mg/L)	Depth (feet)	Ĺ	itholog	Ø	USCS Log	Munsell Color		SOIL DESCRIPTION AND DRIE	LING REMARKS
IA I	0)	He Ref	5-				CL		Concrete, 6 inches brown clay  Silty CLAY: light olive b	prown, soft	
- - - -			10- - - -				CL	2.5Y4/4	Bottom of Machine Pit M Silty CLAY: olive brown		- - - 
			15				ML	2.5Y5/4	Clayey SILT: light olive	brown, firm, friable	- - - - -
- ************************************		XXXXX	<b>20</b> -				ML	2.5Y5/4	Clayey SILT as above		-
-		×××××××××××××××××××××××××××××××××××××××	25				ML	2.5Y5/4	Clayey SILT as above		
			30						Boring Completed at 2	26.5 feet.	- - - - -
			40								-

RO	n	n	g L	og_					IXCIII	ledy/Jenks Consultants
BOR	ING		CATION uildin		04 M				Boring Name —	3M-3
DRI	LIN	īG C	OMPAN	Ϋ́			DRILLER Je		Project Name	DAC C-6 Parcel A Phase II
DRI	LLIN	IG N	regg I	(S)			DRILL BIT	(S) SIZE	Project Number _	954019.01
DEP	тн т		ISA M VATER	obile	B-53		6	in.	ELEVATION =	TOTAL DEPTH
LOC		N	ot En	counte	red				DATE STARTED	26.5 ft.  DATE COMPLETED
		S	. Bartl	ing					3/26/96	3/26/96
٤	SAM P	T .	, is	Depth (feet)	Lithology	USCS Log	Munsell Color	SOI	L DESCRIPTION AND	DRILLING REMARKS
튥	200	3	Head Space Reading (mg/l.)		****			Concrete, 6 inches		
				-	<i>Million</i>	CL		brown clay		1
				-						1
				-				-		1
<b> </b>				-				-		1
┠╽	ŀ			5-		CL		Silty CLAY: olive brown		1
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				-				-		
	▓	×		10-				Bottom of Machine Pit M		-
	***	888				CL	2.5Y4/4	- Silty CLAY: olive brown, fu PID: 6.6 ppm ambient air	m to hard, nonplastic, d	amp
								PID: 6.6 ppm ambient air 5.8 ppm at rig		-1
								-		-
				15		CT/		-		-1
	▓	綴				CL/ ML	2.5Y5/4	Silty CLAY/Clayey SILT: li PID: 5.1 bag sample	ght olive brown, soft, no	onplastic, dry -
-		*						- Tib. 5.1 dag sample		
								-		-
-								_		
<b>**</b>	$\infty$			20		CL/ ML				S 4
	▩	燹		-		ML	2.5Y5/4	Silty CLAY/Clayey SILT: li	ght office brown, soft to	nimi, ary
				'				<u> </u>		]
				'				<u> </u>		
ľ										
	▓	XX		25		ML	2.5Y5/4	Clayey SILT: light olive bro PID 4.7 ambient air	wn, soft, dry, less clay, t	race of sand
***	***	***						-		-
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				30	1			Boring Completed at 26.5	feet.	1
								Doing Completed at 2003	<del></del>	1
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Kennedy/Jenks Consultants

		ig L							edy/ochilis consultation
BORI	IG D	OCATION Building	- 27 I	DSA INT				Boring Name	3N-1
DRILL	ING	COMPAN	Y			DRILLER			DAC C-6 Parcel A Phase II
2011	Dic	Gregg I METHOL	<u>)rillin</u>	2		Jef DRILL BIT (	D C17E	Project Name	
	]	HSA M	o <b>bile</b>	B-53		6 i	ń	Project Number LEVATION	954019.01 TOTAL DEPTH
DEPT	H TO	WATER Not End		mod					27 ft.
LOGG	EDI	3Y				·	D	ATE STARTED 3/25/96	DATE COMPLETED 3/25/96
	AMPL	S. Bartl	ing					3/23/90	3/23/70
			Depth (feet)	Lithology	USCS Log	Munsell Color	SOIL	DESCRIPTION AND	DRILLING REMARKS
Driver	Collec	lload Space Reading (mg/l.)							
			-				Concrete, 6 inches		
			5-		CL	2.5Y6/4 to 4/4	CLAY: with sand and silt, lig	ht yellow brown to olive	e brown, dry, soft
			10-		l				
***		ļ	10-				Bottom of Machine Pit N	_	4
***	2452	4	Ì		CL	2.5Y4/3	Silty CLAY: olive brown, firm	m, nonplastic, moist	-
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	Į		-			[			
			-						
XXXX	ል_		15	{	ML	2.5Y5/3	Clayey SILT: light olive brow	vn, soft, moist	
	▓	S S S S S S S S S S S S S S S S S S S							-
		KKKKA.	20		ML ML	2.5Y4/4	Clayey SILT: as above  Clayey SILT: as above		
***	888	-	-	шшшш					
•   •			30				- Boring Completed at 27 fee	et.	- -
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DO	П	ig L	og_							Renneuy/Jenks Consultants
BORI	NG L	ocation Buildin	. 37 1	DH N	7					Boring Name 3N-2
DRIL	LING	COMPAN	IΥ		·				DRILLER	eff DAC C-6 Parcel A Phase II
DRIL	LING	Gregg I	(S)						DRILL BIT	(S) SIZE 95401 9 01
DEPT	н то	HSA M WATER	obile	B-53	<u> </u>				6	ELEVATION TOTAL DEPTH
LOGO		Not En	count	ered						26.5 ft.  DATE STARTED DATE COMPLETED
		S. Bartl	ing							3/25/96 3/25/96
arives .	ollected dwy	Head Space Reading (mg/f.)	Depth (feet)		Litho	ology		USCS Log	Munseil Color	SOIL DESCRIPTION AND DRILLING REMARKS
			5-					CL/ ML		Concrete, 6 inches Silty CLAY/Clayey SILT: light olive brown
3888	8		10-					<b>}</b>		Bottom of Machine Pit N
		ML 2.5Y4/4 to 5/4							2.5Y4/4 to 5/4	Clayey SILT, olive brown, hard to very hard, dry, some purple metallic sheen in spots
- 		XXX	15					ML	2.5Y5/4	Clayey SILT: light olive brown, soft to firm, dry
- - -			20					ML	2.5Y5/4	Clayey SILT: light olive brown, soft to firm, with more clay in thin lenses
-		×	25	7				ML	2.5Y5/4	Clayey SILT: as above
			30							Boring Completed at 26.5 feet.
			35	-						
			40	- -						

		g Lo							iledy/ocilis consultation	7		
BOR	ING LC	CATION Building	37. F	Pit O				Boring Name	30-1			
DRI	LING	COMPAN	Y			DRILLER Je		Project Name	DAC C-6 Parcel A Phase			
DRI	LING	Gregg D METHOD	(S)			DRILL BIT	CO CITE		954019.01			
DEP	TH TO	ISA MO WATER				61	n. Ei	Project Number LEVATION	TOTAL DEPTH	7		
•	GED B	Not Enc	ounte	red			D	ATE STARTED	26.5 ft.  DATE COMPLETED			
		. Bartli	ng					3/26/96	3/26/96			
tven	covered SY	Head Space Reading (mg/L)	Depth (feet)	Lithology	USCS Log	Mameell Color	SOIL	DESCRIPTION AND	DRILLING REMARKS			
ā	2 8	£&2£		XXXXXX	-		Concrete, 6 inches  SILT: brown to olive brown, s	. A .				
			-		ML		. SILT: Brown to onve brown, s	oic ury				
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	<b>XX</b>		10-	HHHHH	<b>}</b>		Bottom of Machine Pit O					
			_		CL/	2.5Y5/4	Silty CLAY/ Clayey SILT: lig	tht olive brown to olive	e brown, firm, nonplastic, dry	1		
			-		CL/ ML	to 4/4				1		
			_							1		
			-		<b>}</b> +					_1		
- - - -	88		15-		ML	2.5Y5/4 to 5/6	Clayey SILT: light olive brow	n, firm, dry		1		
	▓		-			to 5/6				1		
		]	-				_			1		
			-				-			1		
			-				-			1		
200	00		20-		ML	2.5Y5/4	Clayey SILT: as above, trace	of very fine sand		1		
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	XX		25-		мL	2.5Y5/4	Clayey SILT: as above			-		
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BORIN		CATION Building		PH O						Boring Name —	30-2	
DRILL	ING	COMPAN	ΙΫ́					DRILLE	Jeff	Project Name	DAC C-6 Parcel	A Phase II
DRILL	ING	Gregg I METHOD	(S)					DRILL B	T (5) \$17E	-	954019.01	
DEPTH	I TO	ISA M WATER	obile ]	B-53					6 in.	Project Number - ELEVATION	TOTAL DEPTH	2650
LOGG	ľ	Not End	counte	red						DATE STARTED	DATE COMPLETED	26.5 ft.
	S	. Bartl	ing				r			3/26/96		3/26/96
	MPI.		Depth (feet)	Ľ	ithology		USCS Log	Munsell Color	so	IL DESCRIPTION AND	DRILLING REMARKS	
<b>4</b> 8	ag eg	I lead Spece Reading (mg/l.)			×××	~			Concrete, 6 inches			
▋▏			-		M	M	CL	10YR/3/6	Silty CLAY: fill, dark yello	w brown, nonplastic		-
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1			5-				CL/ ML		Silty CLAY/Clayey SILT: y	ellow brown, soft		-
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			10-				<b>]</b>		Bottom of Machine Pit O			_
			-				ML	2.5Y5/6	Clayey SILT: light olive bro	own, soft, dry		•
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			15-				ML	2.5Y6/6	Clayey SILT: olive yellow,	soft, dry, less clay		-
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			20-						Olaman GH Tana ahawa			_
	▓						ML		Clayey SILT: as above			-
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2222	, S		25-				ML		Clayey SILT: as above			-
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			30-	-					Boring Completed at 26.5	feet.		
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BORI	NG L	OCATION	-4	tion of Buildin	a 37			Boring Name	4	
DRIL	LING	COMPAN	A St bor	non or Danam	231	DRILLER		_	DAC	C-6 Parcel A Phase II
	(	Gregg I	<u>rillin</u>	<u> </u>		DRILL BIT	eff (S) SIZE	Project Name		
ł		SIMCO	5000				in.	Project Number ELEVATION	95401	TOTAL DEPTH
DEPI	H TO	WATER Not Enc	······································	mad		-				26.5 ft.
LOGO	ED E	BY						DATE STARTED 3/27/96		DATE COMPLETED 3/27/96
	AMPL	K. Knig	ht					3/2//90		3/2///
Driven	Collected	Head Space Reading (mg/L)	Depth (feet)	Lithology	USCS Log	Munsell Color		IL DESCRIPTION AND	DRILLING	REMARKS
	1						Concrete, 6 inches Background OVM: 0.0 ppm	1		-
			-		CL		- Silty CLAY: dark brown an		ghtly moist	- - 
- 			5-		ML		Sandy SILT: brown, fine, fi	rm, slightly moist		-
- - - -		XXXX	10- -		 ML	<u></u>	Clayey SILT: dark brown, f	irm, slightly moist		
-		XXXX	15		 SM		Silty SAND: brown, fine, le	oose, slightly moist		
- ************************************		XXXXX	20		SM		-			-
			25		SM		-			
			30				Boring Completed at 26.5	feet.		-
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BORII	NG L	OCATION Buildin	61. s	disc	ent t	o nor	hern ele	vator		Boring Name —	5A			
DRILI	ING	COMPAN Maness	Ϋ́					DRILLER Pe	te	Project Name	DAC	C-6 Parcel A Phase II		
DRILI	JNG	METHOI Geopro	)(S)					DRILL BIT (	(S) SIZE	Project Number _	95401			
DEPT	н то	WATER								ELEVATION		TOTAL DEPTH  36 ft.		
LOGG	ED I	Not Ene		reu						DATE STARTED 4/5/96		DATE COMPLETED 4/5/96		
1 2	AMPL		Depth (feet)	I	itholog	EV	USCS Log	Munsell Color	SO	IL DESCRIPTION AND	DRILLING			
Driven	3	Head Space Readin (mg/f.)		***	<del>}</del>	<del>}</del>			Concrete, 4"					
-	XXXXXXX		5-				CL		Silty CLAY: dark brown, moist, trace of coarse sand, medium plasticity					
-	XXXXXXX		10-				CL		brown, slightly moist, low p	plasticity				
	8000000		15-				ML		Sandy SILT: brown, very fi	ne to fine, moist		·		
	DOXXXXX		20-				ML		Clayey SILT: brown, moist	, trace of very fine sand		- - - 		
	WWW.		25-				ML		Sandy SILT: brown, very fi	ne sand, trace of clay, mo	oist	- - -		
- -		XXX	30				ML ML		some clay, slightly moist			- - -		
		24	40		Ш	11111			Boring Completed at 36 f	eet.		-		

BORING LOC	ATION	61 -	djacent to so	nthern ele	vator		Boring Name —	5B		"+
DRILLING CO	MPAN aness	Y	Glacent to 30	average CEC	DRILLER Pe	te	Project Name	DAC	C-6 Parcel	A Phase II
DRILLING M	ETHOD	(S)			DRILL BIT	(S) SIZE		95401		
DEPTH TO W	ATER		3				Project Number ELEVATION		TOTAL DEPTH	36 ft.
LOGGED BY	ot Enc		rea				DATE STARTED 4/5/96		DATE COMPLETED	4/5/96
SAMPLES	Knigh			T .					DEL CADICO	
Driven Recovered Collected Head	acce vg/L)	Depth (feet)	Lithology	USCS Log	Munecil Color	SO	IL DESCRIPTION AND	DRILLING	i KEMAKKS	
2 2 2 ±	<i>జా</i> జ్క			A		Concrete, 4"				
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2222		_				_				-
		5-		ML		Sandy SILT: brown, very fi	ne to fine sand, moist			-
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		10-		ML		trace of clay				-
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<b>                                      </b>		15-		ML		light brown, no clay, slight	ly moist			]
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		25-		ML						-
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		35-		ML		brown, very fine to fine sa	nd very moist			-
		<u> </u>		IIIML		brown, very time to time sa	, 1017 1110101			
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-			1			Boring Completed at 36	feet.			_
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		ng L						Rennedy/Jenks Consultants							
BOR	NG I	Ocation	north	east corner	of huilding	61	Boring !	Boring Name6							
DRIL	LIN	G COMPAN	1Ă.	east corner	OI DUMUME	DRILLER			DAC C-6 Parcel A Phase II						
DRII	LING	Maness METHOR	0(8)			P DRILL BIT	S) SIZE								
ŧ		Geopro	be			2	n. Project l	Number -	954019.01 TOTAL DEPTH						
		Not En	counte	red			1		26 ft.						
LOG	GED	BY I Knig	ht	-			DATE STARTI	ED 4/1/96	DATE COMPLETED 4/1/96						
	SAMI	BY <b>J. Knig</b>							DOWN DIG DEN A DIG						
Driven	Covern	Head Space Roading (mg/L)	Depth (feet)	Lithology	USCS Log	Manuell Color	SOIL DESCRI	PHON AND	DRILLING REMARKS						
	2 6	¥2% E		<u> </u>	M I		Concrete, 4"								
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-			-						-						
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×××	XX		-						7						
	▓	7.0	5-		ML	:	Sandy SILT: brown, very fine to fine sa	ınd, moist	-						
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1			] -{				•		1						
XX	88		-				-		1						
	▓	7.1	10-		ML		trace of clay								
**	ॐ	29					-		-						
┡╽									-						
									-						
XX.							-		-						
	▓	7.3	15-		ML		light brown, no clay, slightly moist								
	ቖ	84	-~		IIII <sup>ML</sup>		ngal drown, no clay, sugnuy moisi -								
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	▓	6.8	20-		ML		moist		-						
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		ng L		_	_						Kennedy/othks Consultants							
BOR	UNG	LOCATIO Buildi	N ng 67								Boring Name	7A_						
DRI	LLIN	G COMPA	NY						DRILLER	· · · · · · · · · · · · · · · · · · ·	Project Name	DAC	C-6 Parcel A	Phase II				
DRI	I I IN	Gregg G METHO	Drillin	2					DRILL BIT	(S) SIZE	-							
L KI	MIN.	Hydro O WATER	Push							in.	Project Number - ELEVATION	95401	TOTAL DEPTH					
DEP	THI	Not E	.comnte	ered	ì								1	26 ft.				
LOC	GED	BY									DATE STARTED 4/8/96		DATE COMPLETED	4/8/96				
_	SAM	J. Kni	T -	_				<del> </del>						-4070				
٤	g .	Head Space Reading	Depth (feet)		Lih	ology		USCS Log	Manaell Color	so	IL DESCRIPTION AND	DRILLING	G REMARKS					
Price	200	Special Control		L,	_	<del></del>				Concrete, 4"								
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	▓	5.3	5	111			Ш	ML		Sandy SILT: brown, very fi	ne sand, some clay, sligh	tly moist						
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	-		'	Ш						Ţ								
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×	<b>XX</b>	_	-	$\  \ $			$\  \ $											
	▓	5.8	10	╢	Ш		Ш	ML		decreasing clay, soft								
	<b>88</b>	٦	-	$\  \ $			$\  \ $			}								
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	▓	6.5	20	1		$\  \ $	Ш	ML		slightly moist								
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BORII	IG LC	CATION Building	. 67						Boring Name7C							
DRILL	ING	COMPAN	Y					DRILLER	Project Name DAC C-6 Parcel A Phase II							
DRILI	ING:	Gregg I METHOL	<u>Orillin</u>	2				DRILL BIT	T (M SITE							
	I	Ivdro I	ush					2	r (s) SIZE Project Number 954019.01 ELEVATION TOTAL DEPTH							
ŀ	ľ	WATER Not Enc	ounte	red					26 ft.							
LOGG	ED B	y . Knigl							DATE STARTED DATE COMPLETED 4/8/96 4/8/96							
S	MPL	-33														
# P	be fed	Head Space Reading (mg/L.)	Depth (feet)	Lid	hology		USCS Log	Munecil Color	SOIL DESCRIPTION AND DRILLING REMARKS							
É å	3	±85€		<u> </u>	ᄍ	<b>A</b> 7	<u> </u>		Concrete, 4"							
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						Ш			}							
		5.3	5-						Clayey SILT: dark brown, slightly moist, trace of very fine sand							
***	2000				Ш	Ш	ML		- Clayey Silli. dark brown, singinty moist, trace of very fine bank							
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									-							
				ЩЩ	Ш	Ш	<u>L _ </u>									
***		5.8	10						ļ							
		J.6	10-				ML		Sandy SILT: brown, very fine sand, slightly moist, some clay							
	]				Ш	Ш										
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<b>XXX</b>			-		Ш	Ш	ML		decreasing clay, soft							
	₩	6.2	15-			Ш	ML		uccicasing ciay, soit							
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XXXX	8		-		Ш	Ш	ML		dry, soft							
	₩	6.2	20-		Ш	Ш			h							
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		6.3	25-		Ш	Ш	ML		some clay, slightly moist							
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									Boring Completed at 26 feet.							
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		ng									Kennedy/Jenks Consultants				
BORI	NG	LOCA Buil										Boring Name	7 <b>D</b>		
DRIL	LIN	G COM	<b>IPAN</b>	Y rillin:						DRILLER		Project Name	DAC	C-6 Parcel	A Phase II
DRIL	LIN	G MET	THOD	<b>(S)</b>	<b>.</b>					DRILL BIT	(S) SIZE in.	Project Number _	95401	9.01	
DEPT	нт	Hyd O WAI	TER								ш.	ELEVATION		TOTAL DEPTH	36 ft.
LOGO	GED	Not	Enc	ounte	red							DATE STARTED		DATE COMPLETED	
		J. K	nigh	ıt					T		<u> </u>	4/8/96			4/8/96
		Collected Head Space	cading mg/L)	Depth (feet)		Lith	ology		USCS Log	Munsell Color		IL DESCRIPTION AND	DRILLING	G REMARKS	
-			.7	5-					CL		Concrete, 4"  Silty CLAY: dark brown, m				
	***	5	5.2	10- -					ML		Sandy SILT: brown, very fi	ne sand, slightly moist, t	race of clay		-
		5	5.5	- 15- -					ML		- dry, no clay				- - - -
-		× 6	5.1	20 -					ML		slightly moist				•
-	***	***	5.3	25 <sup>-</sup>	-						- - - -				-
-			5.0	30- - - -					ML		Clayey SILT: dark brown,	slightly moist, some very	fine sand		-
		*	5.8 35-IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII						ML		brown, some sandy lenses			No. Marie View	_
-			40-								Boring Completed at 36 f	eet.			- - - -

BORING LOCATION  Outside northeast corner of Building 67		Boring Name ——	8	
DRILLING COMPANY	DRILLER Pete		DAC	C-6 Parcel A Phase II
	DRILL BIT (S) SIZE	1	95401	
Geoprobe DEPTH TO WATER	2 in.	Project Number		TOTAL DEPTH 26 ft.
Not Encountered LOGGED BY		DATE STARTED		DATE COMPLETED
J. Knight		4/2/96		4/2/96
SAMPLES  Depth Self-Control Co		IL DESCRIPTION AND D	RILLING	REMARKS
	Concrete, 6"			-
	-			-
5-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1	Silty SAND: dark brown, v	very fine to fine, moist, with	lenses of	medium sand
10-11111111111111111111111111111111111	Clayey SILT: dark brown,	very moist, trace of medium	to coarse	sand
15-	Sandy SILT: brown, very fi		of dry gra	
20-	-			- - -
25-	slightly moist, some clay			
30-	Boring Completed at 26 f	ïcet.		- - - -
	- - -			-
35-	-			-
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Kennedy/Jenks Consultants

		g Lo						Renneuy/Jenks Consultants								
BORIN	NG LC	CATION	et eo	mor of	Building	67			Boring Name	11A						
DRILL	ING	COMPAN	Ϋ́	HEL OL	Dunani		DRILLER		_	DAC C-6 Parcel	A Phase II					
DBILL	ING.	Maness METHOL	1/8)				DRILL BIT	ete	Project Name		11 111100 11					
		Geopro	be				2	in.	Project Number .	954019.01 TOTAL DEPTH						
DEPT	нто	WATER Vot Enc		red						i <u> </u>	26 ft.					
LOGG	ED B	Y		100					DATE STARTED	DATE COMPLETED	4/4/96					
s	AMPL	I. Knig	ht			1 7			4/4/96		4470					
Driven	ollected	Head Space Space Reading (mg/L)	Depth (feet)	Lith	ology	USCS Log	Munuell Color		IL DESCRIPTION ANI	D DRILLING REMARKS						
				W.	XXXX			Concrete, 4"			-					
		4.1	5-			CL		Silty CLAY: dark brown, m	oist, low plasticity	- <b></b>	-					
		٠,	4.0													
		5.1	10-			ML		Sandy SILT: brown, very fine to fine, slightly moist								
-	8		-								-					
	▓	5.3	15-			ML		light brown, some clay, dry,	hard		-					
***	***	1	-			MIL		-	ngm orown, some ciay, cry, narc							
-		5.5	- 20- - -			ML										
		5.4	25-			\.a		no clay, increasing sand cor	ntent		-					
	XXX	1	<u> </u>	ЩЩ	ШШ	ML		no ciay, increasing sand cor	.w.m							
			35-					Boring Completed at 26 fo	eet.							

Substitution   Subs			g L								Kenneuy/Jenks Consultants							
DEALLING COMPANY Manuscriptors    SOULD RESIDED   Project Number   954019.01	BORI	NG LC	CATION	1		-61	D11	.3:_	- (7		Roring Name 11B							
DALL SET CO SUBJECT OF THE CONTROL O	DRILL	ING	COMPAN	ist col IY	ner	<u> </u>	Buri	am	<u> </u>		DACC 6 Phose II							
Generole 2 In. Project Number 2.50 IDM DBFD 36 R. DBFD		I	Maness							דים ו וופת	W 0777							
Not Excentered  OCH STARTED  DATE COMPLETED  26 ft.  SOIL DESCRIPTION AND DRILLING REMARKS  Concrete, 4°  Concrete, 4°  Soil DESCRIPTION AND DRILLING REMARKS  Soll DESCRIPTION AND DRILLING REMARKS  Concrete, 4°  Solly CLAY: dark brown, slightly moist, medium planticity  1			Geopro	be						2	2 in. Project Number							
Solid Part   Solid Part   Solid Description	DEPT	н то	WATER								ELEVATION TOTAL DEPTH 26 ft.							
Soil Description and Drilling Remarks  Concrete, 4*  Soil Description and Drilling Remarks  Concrete, 4*  Clayer Sill: brown, slightly moist, medium plasticity  Sindy Sill: brown, trace of very fine sand, dry, hard  Clayer Sill: brown, very fine to fine sand, alightly moist  ML  Sandy Sill: brown, very fine to fine sand, alightly moist  dry  Some clay, alightly moist  Boring Completed at 26 feet.  Boring Completed at 26 feet.	LOGG	ED B	Y		reu						DATE STARTED DATE COMPLETED							
SOIL DESCRIPTION AND DERILLING REMARKS  Concrete, 4°  Sity CLAY: dark brown, slightly moint, medium plasticity  5.2 5. 10-  ML  Clayer SH.T: brown, trace of very fine sand, dry, bard  Clayer SH.T: brown, very fine to fine sand, slightly moist  dry  6.0 20-  ML  dry  Sandy SH.T: brown, very fine to fine sand, slightly moist  dry  Soll DESCRIPTION AND DERILLING REMARKS  Concrete, 4°  Clayer SH.T: brown, trace of very fine sand, dry, bard  dry  Sandy SH.T: brown, very fine to fine sand, slightly moist  Boring Completed at 26 feet.		J	J. Knig	ht					_		4/4/96 4/4/96							
5.2 5 Silty CLAY: dark brown, slightly moist, medium plasticity  Clayey SILT: brown, trace of very fine sand, dry, hard  Clayey SILT: brown, very fine to fine sand, slightly moist  Sandy SILT: brown, very fine to fine sand, slightly moist  dry  6.2 25 ML  Boring Completed at 26 feet.	- 1	7	9	Depth (feet)		Litho	ology		USCS	Munsell Color	SOIL DESCRIPTION AND DRILLING REMARKS							
5.2 5 Silty CLAY: dark brown, slightly moist, medium plasticity  Clayey SILT: brown, trace of very fine sand, dry, hard  Clayey SILT: brown, very fine to fine sand, slightly moist  Sandy SILT: brown, very fine to fine sand, slightly moist  dry  6.2 25 ML  Boring Completed at 26 feet.	Driver	Colle	Head Space Rendi															
5.7 10 ML Clayer SILT: brown, trace of very fine sand, dry, hard  6.2 15 Sandy SILT: brown, very fine to fine sand, slightly moist  6.0 20 ML dry  6.2 25 MIL Some clay, slightly moist  Boring Completed at 26 feet.					颁	$\mathscr{M}$	M	m	3		Concrete, 4"							
5.7 10 ML Clayer SILT: brown, trace of very fine sand, dry, hard  6.2 15 Sandy SILT: brown, very fine to fine sand, slightly moist  6.0 20 ML dry  6.2 25 MIL Some clay, slightly moist  Boring Completed at 26 feet.									<b>3</b>									
5.7 10 ML Clayer SILT: brown, trace of very fine sand, dry, hard  6.2 15 Sandy SILT: brown, very fine to fine sand, slightly moist  6.0 20 ML dry  6.2 25 MIL Some clay, slightly moist  Boring Completed at 26 feet.																		
5.7 10 ML Clayer SILT: brown, trace of very fine sand, dry, hard  6.2 15 Sandy SILT: brown, very fine to fine sand, slightly moist  6.0 20 ML dry  6.2 25 MIL Some clay, slightly moist  Boring Completed at 26 feet.									3									
5.7 10 ML Clayer SILT: brown, trace of very fine sand, dry, hard  6.2 15 Sandy SILT: brown, very fine to fine sand, slightly moist  6.0 20 ML dry  6.2 25 MIL Some clay, slightly moist  Boring Completed at 26 feet.				<u> </u>														
6.2 15 ML Sandy SILT: brown, very fine to fine sand, slightly moist  6.0 20 ML dry  6.2 25 ML some clay, slightly moist  Boring Completed at 26 feet.		燹	5.2	5-					CL		Silty CLAY: dark brown, slightly moist, medium plasticity							
6.2 15 ML Sandy SILT: brown, very fine to fine sand, slightly moist  6.0 20 ML dry  6.2 25 ML some clay, slightly moist  Boring Completed at 26 feet.		٦ ا		-					3									
6.2 15 ML Sandy SILT: brown, very fine to fine sand, slightly moist  6.0 20 ML dry  6.2 25 ML some clay, slightly moist  Boring Completed at 26 feet.				-														
6.2 15 ML Sandy SILT: brown, very fine to fine sand, slightly moist  6.0 20 ML dry  6.2 25 ML some clay, slightly moist  Boring Completed at 26 feet.				-														
6.2 15 ML Sandy SILT: brown, very fine to fine sand, slightly moist  6.0 20 ML dry  6.2 25 ML some clay, slightly moist  Boring Completed at 26 feet.	<b>XXX</b>	8		-		Ш	$\mathbf{III}$	$^{\prime\prime\prime}$	1-1									
6.2 15 ML Sandy SILT: brown, very fine to fine sand, slightly moist  6.0 20 ML dry  6.2 25 ML some clay, slightly moist  Boring Completed at 26 feet.		▓	5.7	10-				$\  \ $	ML		Clayey SILT: brown, trace of very fine sand, dry, hard							
6.0 20 ML dry  6.2 25 ML some clay, slightly moist  Boring Completed at 26 feet.		ž.		-	$\ \ $						<u> </u>							
6.0 20 ML dry  6.2 25 ML some clay, slightly moist  Boring Completed at 26 feet.	-			-	$\ \ \ $						<u>}</u>							
6.0 20 ML dry  6.2 25 ML some clay, slightly moist  Boring Completed at 26 feet.	-			-	$\ \ \ $	Ш	$\ \ $	Ш			<b>}</b>							
6.0 20 ML dry  6.2 25 ML some clay, slightly moist  Boring Completed at 26 feet.	***				Ш	Ш	Ш	Ш	<b>-</b>									
6.0 20 ML dry  6.2 25 ML some clay, slightly moist  Boring Completed at 26 feet.		▓	6.2	15	!!!!	Ш		Ш	M		Sandy SILT: brown very fine to fine sand slightly moist							
6.2 25 ML some clay, slightly moist  Boring Completed at 26 feet.	***	8				Ш		Ш	IVIL		Sandy SIL1: brown, very time to time sand, slightly moist							
6.2 25 ML some clay, slightly moist  Boring Completed at 26 feet.				.		Ш	Ш	Ш										
6.2 25 ML some clay, slightly moist  Boring Completed at 26 feet.				١.		Ш		Ш			_							
6.2 25 ML some clay, slightly moist  Boring Completed at 26 feet.			1	Ι.		Ш		$\parallel \parallel$										
6.2 25 ML some clay, slightly moist  Boring Completed at 26 feet.			60	20.			Ш	Ш										
Boring Completed at 26 feet.		<b>XXX</b>	0.0	20		Ш		Ш	ML		dry							
Boring Completed at 26 feet.				'		$\ \ $												
Boring Completed at 26 feet.				'		Ш												
Boring Completed at 26 feet.				'		Ш		Ш										
Boring Completed at 26 feet.		X		٠	1111	Ш		Ш	l va		some clay slightly maist							
35-		▓	6.2	25		Ш		$\ \ $	MIL		oome vay, ongmy mose							
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35-	-			-	1						Boring Completed at 26 feet.							
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BORING LOCATION  Adjacent to above ground tanks (buildin	<b>43</b> )	Boring Name 12A				
DRILLING COMPANY	DRILLER Pete		C-6 Phase II			
Maness DRILLING METHOD (S)	DRILL BIT (S) SIZE	2.10	19.01			
Geoprobe DEPTH TO WATER	2 in	Project Number 9540 ELEVATION	TOTAL DEPTH 26 ft.			
Not Encountered LOGGED BY		DATE STARTED	DATE COMPLETED			
J. Knight		4/5/96	4/5/96			
	Manuell SO	IL DESCRIPTION AND DRILLIN	G REMARKS			
5-1 ML	Clayey SILT: dark brown to	o black, moist, some very fine sand	-			
10- 10- 10-	Sandy SILT: brown to blace	k, very fine to fine sand, slightly mo	ist, with clay			
15- 15-	brown, moist		- - - -			
20-	no clay	no clay				
25-						
30-	Boring Completed at 26 i	ëet.	- - -			
35-	-		- - - -			
- 40- 			-			

BORING LOCATION			10D	
A discent to shove ground tanks (building	43)	Boring Name ——	12B	
DRILLING COMPANY	DRILLER Pete	Project Name	DAC	C-6 Parcel A Phase II
Maness DRILLING METHOD (S)	DRILL BIT (S) SIZE	1 -		
Geoprobe	2 in.	Project Number	95401	
DEPTH TO WATER		ELEVATION		TOTAL DEPTH  26 ft.
Not Encountered LOGGED BY		DATE STARTED		DATE COMPLETED
J. Knight		4/5/96		4/5/96
SAMPLES  Part of the control of the	hfuneil SC	IL DESCRIPTION AND I	DRILLING	REMARKS
4.7 5-	Clayey SILT: dark brown, s	some very fine to fine sand	, trace of fi	ne gravel, moist
4.9 10-CL	Silty CLAY: dark brown, n	oist, medium plasticity		
11.5 <b>15</b>	black, strong diesel odor		- - - -	
6.6 <b>20-</b>	Sandy SILT: brown, very f	ine to fine sand, slightly me	oist, slight	diesel odor
25-	some black clayey lenses v	with strong odor of diesel		
30-	Boring Completed at 26 f	icet.		
35-	- - - -			-

D	r	ın	g Lo	og_				Renneuy/Jenks Consultants					
BOI	RINC	G LO	CATION	t to a	bove ground ta	oks (buile	ding 43)		Boring Name	12C			
DR	LLD	NG (	COMPAN	ſΥ	DUTC ZIVIDIO		DRILLER	ete	Project Name	DAC C-6 Parcel A Phase II			
DR	LLI	NG I	METHOE	(S)			DRILL BIT	(S) SIZE		954019.01			
DEI	ти	TO	eopro Water	be			2	in.	Project Number -	TOTAL DEPTH			
		N	lot Enc	counte	ered				DATE STARTED	26 ft. DATE COMPLETED			
100	GGE	J	. Knigl	ht					4/5/96	4/5/96			
Driven		Ollected	Head Space Reading (mg/L)	Depth (feet)	Lithology	USCS Log	Munsell Color	SO	IL DESCRIPTION AND	DRILLING REMARKS			
-	****	<b>**</b>		5		CL		Silty CLAY: dark brown, sl	ightly moist, with organi	ic material			
-		***		10°		CL							
		<b>***</b>		15		CL		moist, medium plasticity		- - - -			
**************************************				20	-	ML		Sandy SILT: dark brown, v	ery fine to fine, slightly r	moist			
***		×		25	-	ML		Clayey SILT: brown, slight	tly moist, trace of very fir	ne sand			
				30				Boring Completed at 26 f	icet.	- - - - -			
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			g Lo								Renneuy/Jenks Consultants						
P	ORIN	IG LC	CATION Building	. 20								Boring Name —	13A				
ı	RILL	ING (	COMPAN	Y						DRILLER	'ete	Project Name	DAC	C-6 Parcel A	Phase II		
	RILL	ING I	METHOE	(S)						DRILL BIT	(S) SIZE	1	95401				
1		(	Geopro WATER	be						2	in.	Project Number -		TOTAL DEPTH			
ı		P	lot End	ounte	red			_				DATE STARTED		DATE COMPLETED	26 ft.		
I	OGG	J	. Knigl	ıt								4/4/96		<u> </u>	4/4/96		
I	Driven Recovered (2	llected A	Head Space Reading (mg/L)	Depth (feet)	L	itholog	EV		USCS Log	Mannell Color	so	IL DESCRIPTION ANI	DRILLING	G REMARKS			
			4.7 4.9	5-					ML ML		Concrete, 4"  Clayey SILT: dark brown, trace of very fine sand, slightly moist  Sandy SILT: brown, very fine sand, slightly moist						
			5.2	15- - - -					ML		Sandy SILT: brown, very fi	ine sand., slightly moist					
	-		5.6	<b>20</b> -					ML		Clayey SILT: brown, slight	tly moist					
			5.6	25-					ML		-						
				30- - -							Boring Completed at 26 i	leet.					
				35-							- - - - - - -				-		
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Boring Log										
BORING LOCATION	1					Boring Name13B				
Buildin DRILLING COMPA	1 <u>9 29</u> NY			DRILLER	DACC 6 Davad A Phase II					
Maness	3			Pe						
DRILLING METHO	D(S)			DRILL BIT (	S) SIZE	Project Number	95401	9.01		
Geopro DEPTH TO WATER	be				llo	Project Number		TOTAL DEPTH		
Not En	counte	red		· · · · · · · · · · · · · · · · · · ·	<u></u>	DATE STARTED		DATE COMPLETED	26 ft.	
LOGGED BY  J. Knig	ht.					4/5/96		Did b Gevil ability	4/5/96	
SAMPLES					·					
e 14 45 - 32	Depth (feet)	Lithology	USCS Log	Muneell Color	SOI	L DESCRIPTION AND	DRILLING	REMARKS		
Driven Recovered Collected Spece Reading (mg/1.)					C					
		$\Omega$			Concrete, 4"				-	
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	10-		CL		Silty CLAY: dark brown, mo	oist, medium plasticity			4	
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	15-		ML		Sandy SILT: brown, very fu	ne sand, slightly moist				
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	20-		ML		trace of clay, moist					
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BORING LOCATION Building 29  DRILLING COMPANY Maness  DRILLING METHOD (S) Geoprobe DEPTH TO WATER Not Encountered  LOGGED BY J. Knight  SAMPLES  Depth 1 Lishology  Geoprob  Solid DESCRIPTION AND DRILLING REMARKS  Concrete, 18"  Boring Name Project Name DAC C-6 Parcel A Project Number Project Number 954019.01  DATE COMPLETED  DATE COMPLETED  ASSOCIATED ASSOCIATED Coker  Solid DESCRIPTION AND DRILLING REMARKS  Concrete, 18"	Phase II
DRILLING COMPANY Maness  DRILLING METHOD (S) Geoprobe DEPTH TO WATER Not Encountered  LOGGED BY J. Knight  SAMPLES  Egy Solid Started Log Solid Description And Drilling Remarks  Concrete, 18"  Concrete, 18"  DRILL BIT (S) SIZE Project Name Project Number 954019.01  DATE CA Parcel A Project Name DAC C-6 Parcel A Project Name Proj	Phase II
DRILLING METHOD (S)  Geoprobe  DRILL BIT (S) SIZE  Geoprobe  DEPTH TO WATER  Not Encountered  LOGGED BY  J. Knight  SAMPLES  Depth   Given   G	
Geoprobe DEPTH TO WATER Not Encountered LOGGED BY J. Knight  SAMPLES Depth [Size of Si	
Not Encountered  LOGGED BY  J. Knight  SAMPLES  PROPERTY OF THE PROPERTY OF TH	
LOGGED BY  J. Knight  SAMPLES  SAMPLES  SAMPLES  SAMPLES  SAMPLES  SAMPLES  SOIL DESCRIPTION AND DRILLING REMARKS  Cohr  Concrete, 18"  Concrete, 18"	26 ft.
SAMPES    SAMPES   Depth (feet)   Lithology   USC3   Log   Color	4/5/96
Depth (feet) Lithology USCS Log Mannell Color SOIL DESCRIPTION AND DRILLING REMARKS  Concrete, 18"	
Concrete, 18"	
Concrete, 18	
6.5 5- CL Silty CLAY: dark brown, moist, medium plasticity	-
6.5 5- CL Silty CLAY: dark brown, moist, medium plasticity	_
6.5 5- CL Silty CLAY: dark brown, moist, medium plasticity	+
6.5 5- CL Silty CLAY: dark brown, moist, medium plasticity	-
6.5 5 Silty CLAY: dark brown, moist, medium plasticity	
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ML Clayey SILT: brown, moist	
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Boring Completed at 26 feet.	•
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Boring Log Remedy/Jenks Consultants										
Boring Location Between buildings 29 and 33 Boring Name										
DRILLING	Between COMPAN	<u>bwild</u> Y	lings 29 and 33		DRILLER		_	DAC C-6 Parcel A Phase II		
]	Maness				Pe DRILL BIT (	ete	Project Name			
DRILLING	METHOD Geopro	(S) he			DRILL BIT	in.	Project Number _	954019.01		
DEPTH TO	WATER		_				ELEVATION	TOTAL DEPTH  26 ft.		
LOGGED I	Not Enc	ounte	red				DATE STARTED	DATE COMPLETED		
	J. Knigl	nt			-		4/1/96	4/1/96		
CAMP	E.c.			USCS	Munecii	801	T DESCRIPTION AND	D DRILLING REMARKS		
Driven Recovered b	Zgisk	Depth (feet)	Lithology	USCS Log	Munsell Color	301	E DESCRI HOWELD			
5 2 3	385E		***			Concrete, 4"				
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	5.7	5-		CL		Silty CLAY: dark brown, m	oist, some very fine sand	i		
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-	6.0	10- - -		ML		Sandy SILT: brown, very fir	ne sand, some clay, mois	s <b>t</b>		
	5.4	15-		ML		very fine to fine sand, no cl	ay			
-		- -								
-	6.2	<b>20-</b>		CL		Silty CLAY: dark brown, m	oist, micaceous			
	6.4	25-		ML		Sandy SILT: light brown, v	ery fine sand, moist			
-		-				Boring Completed at 26 fo	eet.			
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	Boring Log Rennedy/Johns Constitutes											
BORI	Boring LOCATION Building 33 Boring Name 16											
DRIL	LIN	COMPAN	Y			•	DRILLER		_	DAC C-6 Parcel Phase II		
227		Maness METHOD	·(6)				DRILL BIT	ete (S) SIZE	Project Name	0.7.404.0.04		
		Geopro	be					in	Project Number -	95401	9.01	
DEPT	H T	WATER Not Enc							ELEVATION		TOTAL DEPTH	26 ft.
LOGO	GED	BY		reu					DATE STARTED		DATE COMPLETED	
	AMP	J. Knigl	nt			-			4/2/96		L <u>.</u>	4/2/96
			Depth (feet)	Lith	nology	USCS Log	Munecii Color	SOIL DESCRIPTION AND DRILLING REMARKS				
Prive	1000	Hend Space Reading (mg/l.)	(teer)									
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	▓		5-			CL		Silty CLAY: dark brown, m	oist, trace of coarse sand	l, medium pl	asticity	_
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<b>XX</b>	88		-			<del>  </del>		<b> </b>				
	▓	<b>X</b>	15			ML		Sandy SILT: brown, very fi	ne to fine, moist			4
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	▓	X	20 <sup>-</sup>			ML		Clayey SILT: brown, moist	, trace of very fine sand			
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	▓	<b>X</b>	25	4		ML		Sandy SILT: brown, very fi	ne sand, trace of clay, me	oist		-
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BORIN	ORING LOCATION North of building 36								Boring Name17				
DRILLI	NG C	COMPAN	Y				DRILLER	Project Name DAC C-6 Parcel A Phase					
TIIRG	NG	laness METHOD	(S)				DRILL BIT (	S) SIZE					
	G	eopro	be				2 i	n.	Project Number	23401	TOTAL DEPTH		
DEPTH	TO! N	WATER Tot Enc	ounte	red								26 ft.	
LOGGE	DB'	Y							ATE STARTED 4/1/96		DATE COMPLETED	4/1/96	
SA	J. MPLE	. Knigl	ıt			- 1"					·		
Driven Recovered	ollected	Head Space Reading (mg/L.)	Depth (feet)	Lithology		USCS Log	Maruell Color	SOIL DESCRIPTION AND DRILLING REMARKS					
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